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AUTHOR Monk, David H.; And Others
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ABSTRACT

Conventional research dealing with education finance in general and resource allocation in particular has focused on the raising of revenues at federal, state, and local levels and the subsequent apportionment of these resources across schooling systems, typically school districts. Concern about productivity and equity, however, cannot be addressed adequately at the district level. This monograph focuses on the importance of understanding resource flows at the micro-level and reports on the progress made in New York to measure those flows. Chapter 1 introduces recent activity in two areas: (1) concerns about productivity and efficiency; and (2) concerns over equity in the distribution of educational opportunities. Chapter 2 provides an overview of the conceptual underpinnings of the approach guiding the Consortium for Policy Research in Education's (CPRE's) multistate inquiry. Chapter 3 presents the results of a cross-sectional analysis of district resource-allocation patterns in New York State's public schools for 1991-92. Utilizing data from New York State's Education Department, the study examines the allocation and use of professional staff across elementary, secondary, and administrative levels of schooling. It also examines trends in the allocation and use of professional staff in school districts with different structural characteristics, including school district size, spending, fiscal capacity, incidence of poverty, and performance level. The fourth chapter extends the analysis and reports findings from CPRE's longitudinal analysis of state-collected data. The chapter examines trends in the allocation and use of professional staff during an era of intensive education reform in New York State from 1983 to 1992. Chapter 5 reports findings from a series of case studies that permit the exploration of resource-allocation phenomena at more microlevels than is customary in educational finance research. The chapter applies a microlevel cost-allocation model to six secondary schools within four districts in New York State, identifying conditions and constraints that impact the configuration of professional staff within schools and classrooms. Chapter 6 adapts the personnel data into a resource-allocation framework. Twenty-seven tables are included. The appendix contains a list of expense categories by objective and by function and 45 statistical tables. (LMI)

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What Education Dollars Buy: An Examination of Resource Allocation Patterns In New York State Public School Systems

David H. Monk
Department of Education
Cornell University

Christopher F. Roellke
Department of Education
University of Richmond

Brian O. Brent
Department of Education
Cornell University

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Chapter 1
Introduction

One of the goals of the CPRE Finance Center's research agenda is to gain greater understanding of the allocation of resources to points deeply embedded within educational systems.[1] More conventional research dealing with education finance in general and resource allocation in particular has focused on the raising of revenues at Federal, State and local levels and the subsequent apportionment of these resources across schooling systems, typically school districts. It is becoming increasingly clear, however, that concerns about both productivity and equity cannot be adequately addressed solely at the district level. The purpose of this monograph is to establish the importance of understanding resource flows at micro-levels of educational systems and to report on the progress made in New York to measure these flows. The findings presented herein are part of a multi-state effort being made by the CPRE Finance Center to gain insight into the allocation of educational resources at a variety of organizational levels.[2]

A remarkably diverse set of policy debates has drawn attention to resource allocation at micro-levels of education systems, and we use this section to provide an overview of the kinds of issues that are prompting this attention. The relevant policy issues can be divided roughly into two broad categories: (1) concerns over productivity or efficiency in education and (2) concerns over equity and adequacy in the distribution of educational opportunities. In what follows, we provide an overview of recent activity in each of these two areas.

Productivity/Efficiency Concerns

Current efforts to understand more about productivity and the use of educational resources are demonstrating the importance of using refined measures of how resources flow within schools and classrooms. For example, there has been a growing awareness of the importance of resources flowing from either parents or peers. Some studies have focused on the direct effects of resources supplied in the home or by peers on pupil performance.[3] Some on-going demonstration projects have also placed emphasis on the importance of parent and peer influences and are reporting successes (Comer, 1980, 1988; Levin, 1989, 1994; Slavin, Madden, Karweit, Livermon, and Dolan, in press). Others have considered home and peer influences in the context of their effects on grouping and

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[1]CPRE is an acronym for the Consortium for Policy Research in Education. It is a consortium of universities and operates two research centers, one of which is focused on matters of educational finance and productivity. The work of the Finance Center is supported by grant #R117G10039 from the U.S. Department of Education, Office of Educational Research and Improvement. The Finance Center is based at the University of Wisconsin-Madison and Professor Allan Odden serves as its director.

[2]The other states that are under examination are California, Florida, and Minnesota. See Picus, Tetreault and Hertert (1995) and Nakib (1995).

[3]Coleman (1988, 1991) developed the idea of social capital and used it to understand linkages between homes, communities and schools.

tracking decisions within schools.[4] In all of these cases, more refined measures of resource flows within schools and classrooms are being found to have impact on pupil performance.

Researchers who are studying the effects of incentives on teacher and student behavior are also demonstrating the importance of using disaggregated measures of resource flows.[5] Progress is being made toward understanding the role of both rewards and sanctions at different levels of the educational system.[6]

Similar conclusions are being drawn by researchers dealing with alternative indicators of teacher effectiveness. A common finding in this line of research has been that global measures of teacher education are not dependably related to pupil outcomes. More recently, researchers have succeeded at disentangling teacher attributes into more refined measures of either what teachers actually know about the subject being taught (Hanushek, Gomes-Neto, and Harbison, 1992) or teachers' level of subject area preparation (Monk, 1994b; Monk and King, 1994). The results of these studies are encouraging and suggest that part of the key to understanding more about the effectiveness of teachers and teaching lies in the utilization of more refined measures of what teachers know and are capable of accomplishing in classrooms.

These findings have interesting implications for how policy makers think about the reform of teacher education. On the one hand, the finding that subject matter content preparation has beneficial effects on student performance gains suggests that teacher education programs would be well advised to increase the amount of subject matter preparation for aspiring teachers. On the other hand, if teachers become more specialized it could become more difficult to take full advantage of their improved capabilities. One solution to this potential dilemma is to develop teacher education programs that simultaneously raise productivity levels and make teachers increasingly versatile; alternatively, the goal could be to develop more sophisticated scheduling and allocation mechanisms that permit schools to better accommodate whatever reductions in versatility might accompany improved subject matter competence.

Studies of organizational climate are also demonstrating the importance of using disaggregated data. Research by Pallas (1988) and Rowan, Raudenbush, and Kang (1991) have begun to challenge the idea that a school's climate is an undifferentiated attribute that is best conceptualized at the school level. The breaking apart of a construct that has long been conceived of at the school level is a significant development. It has implications for

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[4]For examples of this type of research, see Barr and Dreeben (1983); Gamoran (1987, 1993); Hallinan and Sorensen (1985).

[5] See, for examples, Allington and McGill-Franzen (1992); Hoenack (1988) and Slavin and Madden (1991).

[6]As of the 1990-91 academic year, Indiana, Kentucky, South Carolina, and Ohio all had financial incentives tied to school level performance indicators. For more details, see Monk (1994a).

how related organizational features like community are conceptualized, and offers important new insights into the properties of education production processes.

Progress is also being made toward understanding the impact of curriculum on pupil performance through the use of disaggregated data. It has been shown, for example, that high school course taking behavior is related to educational outcomes, and that students who take more advanced courses in a given area perform at higher levels (Meyer 1988; Lee and Bryk 1988; Gamoran 1987). These studies employ relatively refined measures of the kind of curricular resources that flow directly to students. They are far removed from earlier and largely unsuccessful efforts that measured exposure crudely in terms of the broad measures of how much time students spend in school.

In addition, the courts have been showing increasing amounts of interest in the effects of differences in district expenditure levels on the actual provision of educational services for students (Benson, 1991). The so-called "third wave" litigation has become more prescriptive and has moved well beyond simple dollar valuations of inputs provided at the district level. Both the New Jersey and Kentucky Courts, for example, assessed educational opportunities in fiscal terms as well as in terms of measures of services and programs available to children.

Finally, within district resource allocation flows have also been at the center of recent controversies surrounding alleged mismanagement of educational systems. Cooper and Sarrel (1991) have been prominent among those who have attempted to disentangle resource flows at micro-levels so that flows to classrooms and instruction can be isolated from flows to more centralized administrative services.[7] More recently, the accounting firm of Coopers & Lybrand has joined this effort and there has emerged a Finance Analysis Model (see Speakman, Cooper, Sampieri, May, and Holsomback, 1995; and Coopers & Lybrand and the Center for Workforce Preparation, 1995). The goal has been to provide a tool that school officials at the district level can use to understand more about the division of resources across alternative uses.

Equity/Adequacy Concerns

There is a parallel, highly diverse set of policy issues where the goal is to address equity or adequacy problems in the distribution of educational opportunities. Here too we find a growing awareness of how important it is to obtain highly detailed measures of resource flows at disaggregated levels.

New York State's recent efforts to reform its public school system are relevant. A Special Commission was formed in New York in 1993 to examine and make recommendations for the improvement of public education. This Commission carried out a major study of how internal school district spending practices have evolved in New York

[7] Others contributing to this line of research include: Berne and Stiefel (1993); Fischer (1990); Fox (1987); Hayward (1988); Hess (1992); Hess and Monfiletto (1992) and Sherman (1984).

between 1979 and 1992 (Lankford and Wyckoff, 1993, 1995). While this report dealt with efficiency as well as equity issues, one of its most striking findings involved the rapid growth that has taken place in the funding of special education relative to other kinds of education. According to Lankford and Wyckoff's results, additional expenditures for disabled students totaled over a third of the increase in real per pupil expenditures between 1980 and 1992. The budget share devoted to "teaching-disabled" grew from 5.3 to 13.1 percent during this period (Lankford and Wyckoff, 1993). The recently released Economic Policy Institute's longitudinal analysis of spending in nine nationally representative school districts between 1967 and 1991 also found increases in the funding for special education (Rothstein with Miles, 1995). Richard Rothstein and his colleagues found that their sampled districts spent four percent of total resources on special education, and that this figure had increased to 18 percent by 1991 (Rothstein with Miles, 1995).

Both the Lankford and Wyckoff and the Rothstein studies raise a number of important equity and productivity questions. Their micro level analysis provide much needed empirical evidence for policy makers.

There have also been a number of recent school finance court decisions where the focus has been on equity at levels that are more disaggregated than is customary in school finance litigation. For example, there has been litigation in Los Angeles that focused on inequalities in spending levels among schools within the district (Rodriguez v. Los Angeles Unified School District, 1992). The agreement that was finally reached called for the district: (1) to equalize basic norm resources, teacher experience, and teacher training among schools; (2) to provide all students with maximum access to teachers with experience and training; and (3) to mitigate the consequences of limited teacher experience and training wherever equalization cannot be achieved. In addition, by the 1997-98 school year, all of the regular schools within the district are expected to receive an equal dollar amount per pupil (within $100 per pupil). Beginning in 1992-93, the district must assign the teachers with high levels of training and experience to schools in the lower third of faculty training and experience. The district must also develop a computer system which will permit school by school budgeting of resources. The settlement goes on to describe requirements for new school facilities, which even includes maximum capacities for playgrounds (e.g., 1.4 playground acres can handle only up to 500 students).

Consider also the litigation in Texas where the courts have prompted an elaborate reform which permits wealthy districts to transfer wealth to poorer districts located elsewhere within the state. According to Senate Bill 7, a district whose property wealth exceeds a state established ceiling level, must take some combination of the following actions to achieve the targeted wealth level: (1) consolidate with another district; (2) detach property from the district and annex it to another district; (3) purchase attendance credits from the state; (4) contract for the education of nonresident students; or (5) make arrangements for tax base consolidation with another district (Clark, 1993). The constitutionality of Senate Bill 7 was affirmed early in 1995 by the Texas Supreme Court.

Researchers are also beginning to examine resource inequalities across different areas of the curriculum. Oakes (1985, 1990) examined the differential allocation of resources to students within secondary schools, and drew attention to the effects of track placement on students' access to learning opportunities. Monk and Haller (1993) conducted a series of studies of the role school size plays in the allocation of resources to different areas of the secondary school curriculum. They examined divisions across both subject areas (e.g., mathematics versus English) and types of courses (e.g., remedial versus advanced). Recent efforts to develop indicators of school processes, sometimes called service delivery indicators, also promise new opportunities to depict resource inequalities within school districts and schools (e.g., Darling-Hammond 1992a, 1992b; Porter 1991; Shavelson, McDonnell, Oakes, Carey, and Picus 1987; and Stecher 1992).

What connects this highly diverse set of studies on both the efficiency/productivity and equity/adequacy sides of the policy divide is a concern over one or another public policy issue coupled with a growing realization that progress in the debate is aided by the availability and use of increasingly more refined and less aggregated measures of resource flows. It does not follow that greater disaggregation is always preferable to less, but it does seem clear that moving beyond gross district level depictions of resource uses offers many advantages.

The purpose of this monograph is to report on a research effort undertaken to understand resource allocation phenomenon at micro-levels of educational systems in New York State's public schools. The remainder of this monograph is divided into five chapters. Chapter 2 begins by providing an overview of the conceptual underpinnings of the approach that is guiding CPRE's multi–state inquiry. Here we deal with both the conceptualization of a "resource flow," and the identity of background and structural features of LEAs that are likely to affect internal resource flows. The chapter also details the methodology and data employed in this line of inquiry.

This discussion leads to a report on the New York State empirical analyses. Chapter 3 reports the results of a cross sectional analysis of district resource allocation patterns in New York State's public schools for 1991-92. Utilizing data obtained from New York State's Education Department, we examine the allocation and use of professional staff across elementary, secondary, and administrative levels of schooling. Particular attention is given to distribution of both teachers and students to different areas of the curriculum. We also examine trends in the allocation and use of professional staff in school districts with different structural characteristics, including school district size, spending, fiscal capacity, incidence of poverty, and performance level.

The use of state aggregated data sets provide useful first approximations of how resources are allocated among and within schools. Chapter 4 extends the analysis and reports findings from our longitudinal analysis of state collected data. Here we examine trends in the allocation and use of professional staff during an era of intensive education reform in New York State, 1983 -1992.

Next, Chapter 5 reports findings from a series of case studies that permit us to explore resource allocation phenomenon at more micro-levels than is customary in education finance research. The use of the case study approach allowed us to take two significant steps forward. First, our quest for more refined measures of instructional resource uses prompted us to develop and apply a micro-level cost allocation model to six secondary schools within four districts in New York State. This model enabled us move beyond aggregated measures of the use of instructional resources and characterize all of the uses to which teachers put their time, including study halls and preparation periods. Part of our motivation here was to begin to deal with the qualitative dimension of teacher time and this is simply not possible if the analysis is restricted to gross measures of how much time teachers spend in different ways.

Second, the case study approach allowed us to supplement the empirical analyses with qualitative descriptions of resource allocation phenomena. In particular, Chapter 5 reports findings collected from qualitative examinations of the resource allocation process that focus on the conditions and constraints which impact the configuration of professional staff within schools and classrooms. These examinations move beyond conventional resource allocation studies and provide fresh insights into the decisions administrators and teachers make regarding the allocation of human resources.

A sixth and final chapter, addresses the policy implications of the findings reported herein. These analyses all involve the adaptation of personnel data into a resource allocation framework. This adaptation raises a number of interesting data collection issues and these are discussed in conjunction with our findings. The chapter closes with a discussion of future directions for micro-level resource use inquiry.

Chapter 2
Conceptual Issues and Methodology

The Finance Center of the Consortium for Policy Research in Education (CPRE), assigned a high priority to micro-level resource allocation research. One of the states chosen as a site for this research was New York, and we use this chapter to report on the conceptual issues and methodology that guide this line of inquiry.

I. Conceptual Issues

The Conception of a Resource Flow

We construe the term "resource" broadly to include all types of potentially productive inputs in educational contexts. In particular, the focus of this inquiry will not be restricted to the tracking of fiscal resources that lend themselves to dollar metrics. As one moves toward more micro–levels of schooling systems, the dollar metric becomes increasingly less applicable. Indeed, the logical culmination of this work is a series of case studies that permit analysts to follow resource flows beyond their last recorded presence in financial or other types of records.

We shall also recognize three broad dimensions along which resource allocation phenomena in education can be characterized. Specifically, we shall distinguish among the origination, disposition, and utilization of resources. As the discussion below makes clear, the chief difference between the disposition and utilization of resources involves a difference in the type of resource being allocated. Disposition pertains to the allocation of purchased and hired schooling resources while utilization involves the allocation of pupil time and effort and the attendant combination with teacher effort.

Origination of resources. New resources can enter the schooling system at any level of decision making. The conventional sources, of course, are Federal, state, and local tax revenues. In a system of fiscal federalism, ambiguities quickly arise over precisely what point each type of revenue enters, but it is clear that the resources enter at different levels and can carry different stipulations. The origin itself can have implications for subsequent decisions that are made about the resources in question.

In addition to the conventional revenue sources (Federal, state, and local tax revenues), there are at least three additional sources of revenue that appear to be growing in their level of importance: (1) revenues coming to individual districts or schools from businesses, foundations, or other organized groups seeking to improve public education; (2) user fees and the proceeds of off–budget fund raising that some school districts are beginning to rely upon more heavily as conventional sources of revenues become more restricted; and (3) donated parental and community resources that are receiving so much emphasis within the school reform literature (e.g., Henry Levin's Accelerated Schools (Levin 1989, 1994), or James Comer's School Development Program (Comer 1980, 1988)).

Unfortunately, little is known about the size and nature of these new resource streams that are entering public school systems. Partly this is because they do not always appear on school district fiscal records.[8] It appears that a case study research methodology is required to even begin to estimate magnitudes of these less conventional revenue sources.

Disposition of resources. Before educational resources can flow, they need to be made available to students. We use the term "disposition" to refer to the decisions school officials and others make that give students access to resources. The results of these resource allocation decisions can be measured in many different ways and at many levels of the educational system.

At the district level it is possible to use established financial accounting categories to capture important aspects of the various resource disposition decisions that are made. In particular, resources can be traced according to the object, function, and program areas of school district budgets. Objects involve categories such as salaries, benefits, supplies and materials, equipment, and so forth; functions involve categories such as central administration, instruction, transportation, food services, and so forth. Programs usually pertain to categories of students. For example, there might be separate programs for special education students, or for gifted and talented students, or for students with limited English proficiency.

Of these three common divisions, the program area allocation is most problematic since assumptions need to be made about how to allocate broad categories of funds that are not divided on a program basis. For example, assumptions need to be made about how to divide a centrally provided service such as administration across various program areas. States vary in how much attention they pay to program–by–program allocations and there is no common agreement about how best to allocate the centrally provided services.

In contrast, the National Center for Educational Statistics has made progress in recent years toward promoting the use of a common set of object and function definitions. The use of these common definitions adds significantly to the potential for analysts to make meaningful cross–state comparisons of resource allocation behaviors within Local Education Agencies.

Personnel data can also be used to gain insight into resource allocation behaviors within schools. A number of states collect detailed information about individual teacher's teaching assignments, and these data can be used to create a district or school profile of how teaching resources are being deployed. It is possible, for example, to calculate the percentage of teaching assignments in a secondary school that are devoted to, say, the mathematics area of the curriculum. These curricular allocations can provide important

[8]This will be particularly true for the donated parental resources and perhaps user fee revenues. Grants from businesses are presumably accounted for within conventional financial records.

insights into programmatic decisions that are made within districts and schools. They also permit the analysis of the interface between district and school level resource allocating behaviors. For example, in a large district, the curricular divisions of individual schools can be created and compared with district aggregates. These curricular analyses using personnel data provide a valuable complement to program by program analyses of how district financial resources are allocated.

It is also possible to use curricular resource disposition data to generate insight into important phenomena such as the accessibility of curricular opportunities for students, or what Porter has called the "enacted curriculum" (Porter, 1991). For example, these data can be used to measure the incidence of single section offerings (often called singletons) within a school's curriculum. Our presumption is that when all else is equal, the incidence of singletons is a good indicator of curriculum inaccessibility. It is also possible to use teacher assignment data to calculate indicators of a school's willingness to provide relatively specialized curricular opportunities. The percentage of classes offered by a school with 10 or fewer students could be a revealing indicator of specialized course availability.

Utilization of resources. Before an educational resource can be utilized there needs to be an allocation of students' time. It is when resources are utilized that they can be said to "flow." The disposition of a resource is a necessary but not a sufficient condition for a resource flow to occur.

School officials have limited but real involvement at the utilization phase of the resource allocation process. For example, they may be deeply involved in scheduling decisions, and they can play an important role in providing guidance to students about course, track, and program selections. But it is clear that students themselves play perhaps the most important role in terms of the actual utilization of resources since they have ultimate say over the availability of their time, interest, and commitment to the educational activities they encounter.

These student–made decisions constitute a large and complex area for research, and we shall not deal directly with it in this study. Instead, we shall rely upon data that reveal the results of the decisions that are made about the allocation of students' time and effort. These data will permit us to place the results of our resource disposition analyses into an insightful context.

More specifically, we shall juxtapose the results of our teacher resource distribution analyses with data describing the allocation of students across areas of the curriculum. Knowing that 12% of the teaching resources in a high school are devoted to mathematics instruction, for example, needs to be examined in light of the proportion of student–hours similarly devoted to the subject. In addition, we develop indicators of students' access to particular curricular opportunities. For example, we measure on a school specific basis the proportion of students studying advanced mathematics, regular mathematics, remedial mathematics, etc. We also construct overall pupil load indicators

across the core subject areas. Our goal is to assess how much these type of utilization indicators vary across schools and to make progress toward understanding the origins of whatever variation there might be. Class–specific enrollment information will be the basis for these comparisons. Actual attendance information, collected at the site level, may also be of value, since it will provide direct insight into decisions pupils make about their supply of time to their studies.

While we have distinguished sharply between the disposition and utilization aspects of the resource allocation process, it is clear that these two types of phenomena can be closely linked. Students' willingness (both real and perceived) to utilize resources can have strong effects on disposition decisions. Similarly, students' responses are likely to be sensitive to the types of resources that are made available. We are at an early stage in our efforts to disentangle and understand the interplay between various aspects of the internal resource allocation process.

The Choice of Predictor Variables

We are interested in estimating relationships between a set of school district structural characteristics and the indicators we have developed of internal resource allocations. We have chosen five types of structural attributes. First, there several different measures of school districts' fiscal position. In particular, we have singled out measures of school districts' real property and income wealth on a per pupil basis. These are classic measures of school district fiscal capacity, and our interest in their effects on spending grows out of the long-standing equity concerns within educational finance. Conventional school finance equity studies examine relationships between school district fiscal capacity and overall spending levels. Here, we seek to extend the analysis to include the effects of various aspects of fiscal capacity on internal resource allocation behaviors.

Second, for similar reasons, we are interested in relationships between various measures of school districts' socio–economic status and resource allocation practices. The variable we have chosen for these analyses is the incidence of students qualifying for free and reduced price lunches (the FRPL count). The purpose of these analyses is to understand the effects of concentrations of poverty on resource allocation behaviors. Poverty concentration measures are becoming increasingly popular measures of district need for additional funding. The New York State Board of Regents has proposed to pay "extraordinary needs aid" on the basis of a poverty concentration indicator. Similarly, the Clinton administration's proposal for the reauthorization of Chapter 1 funding involves placing a greater emphasis on concentration indicators.

Third, policy makers are often interested in how districts spend marginal dollars since reform efforts often result in an influx of new resources to school districts. This policy making concern prompts our interest in estimating relationships between school district per pupil spending levels and their internal resource allocation practices. In this monograph we compare high with low spending districts. We have also conducted

longitudinal analyses that permit the direct examination of how districts spent the additional resources that were made available to them.[9]

Fourth, we are interested in the effects of school district size. This interest is motivated by economic theories of scale in addition to previous research on the topic. There is an on–going lively policy debate surrounding the nature of scale economies in education and their implications for district and school organizational structure (Monk and Kadamus, 1996). Most of the existing studies place emphasis on district–level aggregates. Here we extend the analyses to examine the internal effects of district size on resource allocation behaviors.

And fifth, we are interested in the how resources are allocated in high versus low performing districts. The link between spending and student achievement is unclear. In fact, research has yet to produce consistent findings with regard to the relationship between teacher inputs and student performance. On one side of the debate, Hanushek (1995), for example, suggests that these key educational resources are not systematically related to student performance. On the other side of the debate, there are those who suggest that "money does matter," and that educational policy should be responsive to the relationship between resource allocation and student achievement (Hedges, Laine, and Greenwald, 1994). Here, we seek to inform this debate by analyzing the relationship between resource allocation and student performance at a more micro-level than in customary in education research.

II. Data and Methods

This is one part of a larger multi–state effort within the CPRE research program. The focus here is on New York. New York was chosen because of the relatively well developed nature of its data base and because it typifies a highly regulated, high spending state. The other states that were chosen were Florida, California, and Minnesota.

The general strategy for our analyses was begin by using State collected data and then move progressively toward more micro-level indicators of resource allocation and use. Thus, there were multiple sources of data for our analyses. First, our analyses began with an examination of data collected by the New York State Education Department (SED). Next, we narrowed our focus on the allocation and use of teaching personnel within secondary schools and conducted a series of case studies of four districts across the State. This section highlights the data methodology employed in each of these two lines of inquiry.

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[9]The Lankford and Wyckoff (1993) study includes longitudinal analyses of this type. We extend their work to look more intensively at more disaggregated indicators. We were especially interested in conducting longitudinal analyses of the curriculum allocation data specified at the individual school level.

State Collected Data

First, our analyses are began with an examination of data collected by the New York State Education Department (SED) for the 1991–92 school year. The cross-sectional analysis was then supplemented by a longitudinal analysis of resource allocation trends in New York State. Sample years selected for the longitudinal analyses were 1982-83, 1987-88, and 1991-92. The reason for selecting these sample years is that they intersect the two major stages of reform in New York State. The 1982-83 and 1987-88 sample years reveal resource allocation trends prior to and following the publication of the Regent's Action Plan (1984). The 1987-88 and 1991-92 sample years reveal resource allocation trends prior to and following the publication of the New Compact for Learning (1991).

For both the cross-sectional and longitudinal analyses we restricted our inquiry to "regular" K–12 school districts in New York by excluding operating institutional school districts, special residential school districts and those districts operating only an elementary or secondary program. A separate analysis is conducted for the Big Five city districts (Buffalo, Rochester, Syracuse, Yonkers and New York City). In addition to being fiscally dependent school districts, these five city districts are substantially larger than all other districts within the State (nearly one-third of the pupils within the State are from New York City alone). As a result, a separate analysis is typically conducted for the Big Five city districts in this type of inquiry.

These exclusions leave us with a sample size for 1982-83 school year of 626 school districts. The sample size for the 1987-88 school year is 649 districts. The samples size for the 1991-92 school year is 650 districts. Sample sizes across the school years vary for three reasons: 1) district consolidation during the period; 2) districts adding or deleting an elementary or secondary program; and 3) missing data. The School Financial Master File (SFMAST), the Institutional Master File (IMF) and the Personnel Master File (PMF) of the Basic Education Data System (BEDS) were used for revenue, expenditure, enrollment, and staffing information. Figures reflecting the percentage of pupils qualifying for free and reduced price lunch (FRPL), property wealth per pupil and income per pupil came from the State Education Department's education finance research data base.

The findings reported in this monograph are focused on the allocation and use of professional staff across elementary, secondary and administrative levels of school operations. Particular attention is given to the disposition and utilization of teacher resources across secondary school curricular areas.

Within the core subject areas of the secondary school curriculum, we differentiate between "advanced," "regular," and "remedial" type offerings.[10] We relied on the course titles listed in the assignment code manual of the Basic Educational Data System (BEDS) to determine the type of course offering. We counted as advanced courses those subjects described in the manual as "advanced," "honors," "accelerated," or "college-credit." We counted as remedial those courses described as: "basic," "remedial," "practical," "developmental," or "corrective" (not special education). In those cases in which the type of offering could not be determined by the course title, we relied on teachers' descriptions of the type of pupils within the class. If the teacher reported a homogeneous class of "advanced placement" or "honors" pupils, we counted that offering as advanced. Heterogeneous classes with generic course titles were counted as regular offerings.

In our within school disposition analysis, we report findings in several ways. First, we calculated full–time equivalent teacher staffing levels on a per 1,000 district pupil basis. For example, we calculated the number of full-time-equivalent elementary, secondary, and administrative professional staff per 1,000 pupils in the district. We also calculated the number of full-time-equivalent teachers in specific secondary school subject areas per 1,000 district pupils. These per 1,000 pupil indicators provide insight into the intensity of resources that are made available within the school. We then consider the degree to which these intensities are related to background structural features such as district spending levels, district size, district property wealth, district income wealth, and district performance. Within each category of analysis, where appropriate, we present data for the state average and for pupil quintiles. Quintile distributions reflect pupil counts, not district counts. That is, quintiles are constructed so that approximately one–fifth of the pupils in the state (excluding the Big Four and New York City) are contained within each quintile. We present the average results for each quintile where the average is weighted by the number of pupils in each district.

Inequalities in these resource intensities can arise from two sources: 1) there can be differences in the size of the overall pool of resources; or 2) there can be differences in how districts divide a given pool of resources across the various competing sub–units. For example, we might find a large difference in the teacher resources devoted to mathematics in two districts. The difference might be due to the fact that the two districts have different sized pools of resources to allocate; or, they might have the same pool to work with but decide to divide it in very different ways. Given this interest in internal resource allocation practices, it is important to examine directly the decision to divide the pool of resources in one fashion rather than another. In addition to the staffing level per 1,000 district pupils indicator, we provide the percentage share of the teaching resource pool that specific subject areas receive. This calculation of teacher time excludes consideration of "non-academic" teaching responsibilities such as study hall duty, cafeteria duty and other unassigned teacher time.

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[10]We define the core curriculum as English, mathematics, science, social studies and foreign language.

To address our interest in the utilization of resources, we construct three indices of resource utilization: 1) the percentage of pupil time allocated to secondary school subject areas; 2) a teacher time/pupil time utilization ratio calculated by dividing the percentage share of teaching resources devoted to a particular subject area by the percentage of student time allocated to that subject; and 3) the overall pupil load per full-time-equivalent secondary school teacher.

We used class-specific enrollment information to generate a series of subject–specific indicators that tell us the percentage of the pool of student–time resource that is devoted to each area of the curriculum. The numerator in this calculation is total number of students enrolled in specific subject area courses. The denominator in this calculation is the total number of students enrolled in all subject area courses. This excludes "non-academic" allocations of pupil time for study halls, lunch or otherwise unassigned student time. With these two percentage share indicators in hand (percentage teacher time and percentage pupil time) it becomes possible to generate an index of resource utilization. In this report, we have relied upon a ratio of the two percentages as our measure of resource utilization. The teacher resource share appears in the numerator of the ratio, so a figure of 1.3 for a given subject area suggests that 30% more teacher resources than pupil resources are devoted to the subject in question. Thus, low readings on this indicator suggest that the teacher resource in question is facing relatively heavy demands.

Another important indicator of resource utilization within schooling systems is the overall pupil load. This indicator provides insight into the specific pupil demand faced by teachers within particular subject areas. This indicator has also received a great deal of attention in the reform literature. One of the guiding principles of Sizer's Coalition of Essential Schools, for example, is that teachers on the secondary level maintain an overall pupil load of less than 80 students (Sizer, 1992). This indicator differs from the per 1,000 staffing indicator in that it assesses the number of students actually enrolled in particular types of secondary school courses per full-time-equivalent teacher (rather than ratios based on district level enrollment counts). Class specific enrollment figures were also used to calculate overall pupil loads within each of the core subject areas. We constructed this indicator by calculating the number of pupils enrolled in specific subject area course and dividing these totals by the number of full-time-equivalent teachers allocated to those areas of the curriculum.

Case Study Analyses

In Chapter 5 of this monograph we present case study findings based on data collected at four districts across New York State. The four districts chosen for this research have been coordinated with the ongoing work of the Finance Center of the Consortium for Policy Research in Education (CPRE). In selecting the districts, CPRE has made efforts to obtain a diverse sample based on district wealth (property value and income per pupil), district enrollment, and state regional representation. Within the two

larger districts, a sub-sample of secondary schools was randomly selected for the intra-district analyses. The following are descriptions of the sites selected:

1. Small Poor. This district is classified as a small, poor, rural district and is located in Central New York. The district operates a K-12 program and serves approximately 900 students. Within the jurisdiction there is one elementary school (K-6) and one combination junior/senior high school (7-12). The student body is less than one percent minority and 28 percent of the students participate in the free and reduced lunch program. The dropout rate is less than one percent. Regents diplomas are awarded to 30 percent of high school graduates and 63 percent of the district's graduates go on to some form of postsecondary education.

2. Large Poor. This district is classified as a large, poor, urban school district and is located in the Southern Tier Region. The district operates a K-12 program and serves approximately 8,300 students. Within the district there are nine elementary schools, two junior highs, and two senior high schools. The student body is 12 percent minority and 35 percent of the students participate in the free and reduced price lunch program. The dropout rate in the district is five percent. Regents diplomas are awarded to 44 percent of high school graduates and 70 percent of the district's graduates go on to some form of postsecondary education.

3. Large Wealthy. This district is classified as a large, wealthy, suburban district and is located in the Western Tier Region. The district operates a K-12 program and serves approximately 5,000 students. Within the district there are five elementary schools, one junior high, and two senior high schools. The student body is 10 percent minority and less than two percent of the students participate in the free and reduced price lunch program. The dropout rate in the district is less than one percent. Regents diplomas are awarded to 72 percent of high school graduates and 88 percent of the district's graduates go on to some form of postsecondary education.

4. Small Wealthy. This district is classified as a small, wealthy, suburban district and is located in the Capital Region. The district operates a K-12 program and serves approximately 1,200 students. Within the district there is one elementary school (K-6) and one combined junior/senior high school (7-12). The student body is less than one percent minority and less than two percent of the students participate in the free and reduced price lunch program. The dropout rate in the district is less than one percent. Regents diplomas are awarded to 72 percent of high school graduates and 88 percent of the district's graduates go on to some form of postsecondary education.

The case study analyses moved forward along two lines of inquiry. The first, applied a micro-level cost allocation model to six secondary schools within the four case study sites. In brief, the model allows us to measure the distribution of instructional costs across curricular areas (e.g., English), course offerings (e.g., English 9), and course levels

(e.g., advanced, regular, remedial). This micro-level examination of instructional costs also gave us the opportunity to quantify two teacher resources that have received virtually no attention: the time teachers spend on preparation and the time teachers devote to non-instructional duties. The second line of inquiry moved more deeply into the resource allocation process and explored the qualitative dimension of resource allocation phenomenon. More specifically, through the use of interview data at 10 schools within the four sites we examined the conditions and constraints at the local level which impact the configuration of professional staff within schools and classrooms. The following sections describe the data and methodologies employed in both these research efforts.

A Micro-level Resource Allocation Model. The first step in the development of a micro-level resource allocation model requires the specification of the unit of analysis. As noted, we are interested in characterizing and applying a dollar metric to all of the uses to which teachers put their time. Our unit of analysis, therefore, reflects the various components that comprise direct classroom instruction. Direct classroom instruction can be sub-divided into instruction-regular and instruction-special education. Within these sub-divisions the unit of analysis is further disaggregated into instructional programs (e.g., English, history, art), and again into individual course offerings (e.g., English 9 honors, AP American history, studio art). By specifying the unit of analysis along these dimensions, the distribution of resources can be measured along a continuum of more refined activities. In the aggregate, the model measures the costs of offering individual program types (e.g., regular/special education). At its most micro-level the model yields information concerning the per pupil cost of offering a specific course at a given site.

The second step in the application of the micro-level resource allocation model requires the allocation of instructional costs to the unit of analysis. Instructional costs are comprised of the salaries, wages, and fringe benefits of personnel whose work can be directly traced to the unit of analysis. To allocate these costs among the unit of analysis, a two-step procedure was employed. First, relying on employee payroll schedules, the salaries, wages, and related benefits of those individuals properly classified as instructional costs were aggregated.[11] The result of this process was to generate a schedule which detailed the instructional costs (i.e., actual salary plus benefits) for each of the teachers and teachers' aids in the districts. Next, utilizing staffing data and a master course schedule, instructional costs were assigned to the unit of analysis. In doing so, we were able to measure the instructional costs of a particular course or portion of the curriculum, by applying the actual salaries that where being paid to the teachers and aides that are involved.

We have restricted our analysis to the instructional costs associated with "traditional" senior high school curriculums by excluding middle level courses (e.g., grades 7-8) offered in the two combined junior/senior high schools. These exclusions left us with course offerings for grades 9-12 at six secondary schools in New York State.

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[11]Benefits include provisions for state retirement, teachers retirement, social security, workmen's compensation, life insurance, disability insurance, dental insurance, employee assistance, hospital insurance, and unemployment reserve.

Process Studies. There are several sources of district and school level data that helped shed light on internal resource allocation practices. For example, district and school level budget information as well as collective bargaining agreements between the teachers' association and the school district were collected from each site.[12] The collective agreements contain information regarding time expectations for faculty and definitions of full-time-equivalent. In some cases, collective bargaining agreements also contain pupil load limitations by grade level or subject area. Changes in these limitations and definitions over time can have significant implications for the allocation and use of teaching resources.

Student-parent handbooks, which contain information on graduation requirements, student expectations, academic calendars and school goals, were also collected from each of the secondary schools within the sample. Also collected were any formal district or school policies and guidelines pertaining to the allocation of personnel.

In addition, a vital piece of the qualitative, case study portion of the research design was a series of interviews with district-level administrators, building-level administrators and veteran secondary school teachers. These were the key informants in this inquiry as they provided valuable insights into resource allocation phenomena as well as insights into the context in which education reform is carried out. General, open-ended interview protocols were used in order to provide consistency across the sample. Reflections of administrators and teachers regarding resource allocation decisions within their schooling systems were solicited in the interviews. Opinions were solicited regarding the two State reform efforts of the last decade (i.e., Regent's Action Plan, New Compact for Learning). Particular attention was given to those aspects of reform which deal most directly with the allocation and use of professional staff within local education agencies (LEAs).

In addition, interviews were directed at those aspects of human resource allocation and use that could not be directly assessed through an analysis of State collected data or existing documentation. Specifically, efforts were made to understand the process by which staffing decisions are made at various levels within schooling systems. Veteran teachers were also asked to reflect on how their instructional practices and other uses of their professional time have changed over the twelve year period.

The key informants (N=30) in this inquiry were district-level administrators, building level administrators and veteran secondary school teachers. A sample of key informants were selected from each of the four school districts. District level and building level administrators provided insights regarding the process by which human resources are allocated within schooling systems. Veteran teachers commented on their role in this process and how district and school level resource allocation decisions have impacted their

[12] All collective bargaining agreements since 1983 were requested from each of the four school districts. In two of the districts, only the two most recent collective bargaining agreements were available.

professional lives. Interviews lasted between twenty-five minutes and seventy five minutes, with the average interview lasting approximately forty minutes.

Two criteria were employed for the selection of veteran teachers: 1) the teacher had to be a secondary school teacher who had taught in the same school for at least the last ten years (1985-1995); 2) the primary teaching responsibilities of the interviewee must have been within one of the core subject areas emphasized in the reform literature (English, science, mathematics, social studies, or foreign language). Secondary school building principals were informed of the selection criteria and were asked to identify teachers who could serve as key informants. Requests were also made to obtain a diversity in the sample with regard to overall classroom experience and gender.

A total of seven district-level interviews were conducted. Four of these interviews were with the chief business official at each of the four sites. One superintendent, one assistant superintendent for personnel, and one assistant superintendent for instruction rounded out the sample of seven district-level administrators. Two of the business officials were interviewed twice. A total of eight building principals were interviewed, three at the elementary level and five and the secondary level. Two of the secondary school principals were interviewed twice.

Fifteen veteran teachers were interviewed, all of which teach at the secondary school level. Of these fifteen teacher interviews, five were conducted with English teachers, three were conducted with social studies teachers, two were conducted with science teachers and two were conducted with mathematics teachers. The years of experience of the teachers ranged from 20 years to 32 years, with the average being 24 years. The matrix below displays how this sample was distributed across the four sites by staff category and by gender.

Matrix of Interview Sample (N=30)

Staff Category	Large Wealthy	Large Poor	Small Wealthy	Small Poor	Totals
District Level Administrators	1F*, 3M	1M*	1M	1M	1F,6M
Building Level Administrators	1F, 1M	1F,2M	2M**	1M**	2F,6M
Secondary School Teachers	2F,1M	3F	2F,2M	3F,2M	10F,5M
English	1F		1F,1M	2F	4F,1M
Mathematics	1F	1F			2F
Science			1M	1M	2M
Social Studies	1M	1F		1M	1F,2M
Foreign Language		1F	1F	1F	3F
Totals	4F,5M	4F,3M	2F,5M	3F,4M	13F,17M

*At these sites, the chief business official was interviewed twice.

**At these sites the secondary school principal was interviewed twice.

Chapter 3
Cross-Sectional Findings Using State Collected Data

I. Introduction

The New York portion of the "what dollars buy" project has been structured around a distinction between the origination, disposition, and utilization of educational resources. Recall that "origination" refers to the size, nature and source of resource streams into the schooling system. The term "disposition" refers to decisions school officials and others make that divide these resources across alternative destinations. The term "utilization" moves the analysis of resources deeper into the educational system (and closer to the point at which resources are transformed into educational outcomes) by explicitly introducing the allocation of student time. In this chapter we review the key findings regarding these three resource allocation dimensions using State collected data for 1991-92.

We begin the chapter with a review of the origination findings in New York. New resources can enter the schooling system at any level of decision making. The conventional sources, of course, are Federal, state and local tax revenues. In a system of fiscal federalism, ambiguities quickly arise over precisely what point each type of revenue enters. In addition to the conventional revenue sources, there are at least three additional sources of revenue that appear to be growing in their level of importance: 1) revenues coming to individual districts or schools from businesses, foundations, or other organized groups seeking to improve public education; 2) user fees and the proceeds of off-budget fund raising that some school districts are beginning to rely upon more heavily as conventional sources of revenues become more restricted; and 3) donated parental and community resources that are receiving so much emphasis within the school reform literature.[13] It is clear that schooling resources enter at different levels and can carry different stipulations. In fact, the origin itself can have implications for subsequent decisions that are made about the resources in question.

We then turn to our disposition findings using State collected data. Before educational resources can flow, decisions need to be made as to how they will be made available to students. The results of these resource allocation decisions can be measured in many different ways and at many levels of the educational system. We first provide results of our fiscal analyses which describe educational expenditures by object and function of expense. Objects involve categories such as salaries, benefits, supplies, and materials; functions involve categories such as central administration, instruction, transportation, and food services. We display these results in both percentage, and real dollar terms. Next we focus our attention on the disposition of resources across secondary schools, paying particular attention to how teaching resources are distributed across the secondary school curriculum.

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[13] See, for example, Henry Levin's Accelerated Schools (Levin 1989, 1994), or James Comer's School Development Program (Comer 1980, 1988).

We conclude our reporting of cross-sectional findings using State collected data with a review of our utilization analyses. More specifically, we juxtapose the results of our teacher distribution analyses with data describing the allocation of students across areas of the curriculum. Knowing that 12 per cent of the teaching resources in a high school are devoted to mathematics instruction, for example, needs to be examined in light of the proportion of student-hours similarly devoted to the subject. In our study, class-specific enrollment information serves as the basis for these comparisons.

II. Findings

The Origination of Education Resources in New York

The first block of tables (Tables 1A through 1F) focus on the sources of revenue that reach New York public schools. We provide quintile breakdowns by spending level, district property wealth, and also provide breakdowns by school district size, percentage of pupils in poverty, percent minority pupils, and district performance level. The last three columns of each table displays the State average (minus the Big 5), the Big 4 city districts (Buffalo, Rochester, Syracuse, Yonkers), and for New York City. For the non-Big 5 school districts in the State, we found that local revenues comprise 55.7 per cent of the revenue reported for the 1991-92 school year (see Table 1A). The State share was 42.1, while the Federal share was 2.2 per cent. Revenues from the real property tax clearly dominate the local revenue component, and represent nearly half of the total revenues in the non-Big 5 city districts. The Big 4 city districts rely less heavily on local revenues and more heavily on State revenues than is the case for New York City.

TABLE 1A ABOUT HERE

District Spending. The breakdowns by spending levels indicate that higher spending districts tend to rely more heavily on local revenues than do low spending districts, although this appears to be primarily the result of districts in the highest two spending quintiles. With the exception of a low share in the highest spending quintiles, Federal aid is quite evenly distributed across the spending quintiles.

TABLE 1B ABOUT HERE

District Size. Table 1B reveals that there is some tendency for the larger school districts to rely more heavily on local revenues and less heavily on State revenues when compared to smaller districts. Federal revenue shares do not seem to be sensitive to district size.

TABLE 1C ABOUT HERE

District Property Wealth. School districts with relatively high levels of property wealth depend much more heavily on local revenues than State revenues. This is the expected result of the wealth sensitive system of State aid that is in place in New York State. The districts falling into the wealthiest quintile in the State receive 84.9 per cent of their revenues from local sources. This compares with 29.8 per cent for districts in the least wealthy quintile. Here, in contrast to the previous results, we find that the Federal share is sensitive to district property wealth. The poorer districts tend to have somewhat higher Federal shares than do the wealthier districts. In the poorest quintile, the Federal share is 3.3 per cent; in the wealthiest quintile, it averages 1.2 per cent.

TABLE 1D ABOUT HERE

District Income. Similar relationships can be found in the table describing the breakdown by income per pupil. The local share in the quintile containing the lowest income districts was 31.4 percent; the corresponding figure for districts in the highest income quintile was 83.6 percent. It is interesting to note that for both measures of district fiscal capacity (real property wealth and income per pupil) the percentage shares for the non-property tax local revenue source tend to be lower for the less fiscally capable districts and higher for the more fiscally capable districts. User fees, for example, make up a slightly higher percentage of revenues in wealthier compared to poorer districts.

TABLE 1E ABOUT HERE

Poverty Level. The breakdowns by per cent of pupils in poverty are troublesome in New York because of the broadness of the categories that are available. It would have been advantageous to have a more refined set of categories. In order to be consistent with the other states in the CPRE study we constructed groupings such as >75% pupils in poverty (as measured by the FRPL count). It is nevertheless striking that while the revenue decompositions are similar to what we saw earlier in the fiscal capacity tables, the relationship here appears to be less pronounced.

TABLE 1F ABOUT HERE

Percentage Minority. The next table in this series provides a breakdown by percentage of pupils who are considered members of minority groups. Notice the reduction in how sensitive the share ratios are to this district attribute compared to the measures of fiscal capacity and the incidence of pupils in the FRPL count. Of course, there are many types of minorities and minority status in and of itself is not a direct measure of fiscal capacity. Nevertheless, the lack of sensitivity of the revenue shares to the incidence of minority students may be an indication that existing measures of fiscal capacity are missing important aspects of the true burdens facing school districts.

TABLE 1G ABOUT HERE

Performance Level. The last table in this series provides a breakdown of the origination of revenues by performance level. School districts with relatively high performance levels depend much more heavily on local revenues than State revenues. The districts falling into the highest performance quintile in the State receive 64.1 per cent of their revenues from local sources. This compares with 50.8 per cent for districts in the lowest performing quintile. Here, in contrast to the previous results, we find that the Federal share is sensitive to district performance level. The lower performing districts tend to have higher Federal shares than do the higher performing districts. In the lowest performing quintile, the Federal share is 3.1 per cent; in the highest performing quintile, it averages 1.5 per cent. Somewhat surprising, however, is the finding that district in the highest performing quintile secures less revenues than three of the four lower performing quintiles.

The Disposition of Education Resources: Expenditures by Object of Expense

The second block of tables (2A through 2F) focus on how funds are allocated at the object level of expense. In establishing the expense categories by object (and function), we made efforts to be consistent with the other states in the CPRE multi-state study.[14] The last three columns of Table 2A display the results for the State average (minus the Big 5 cities), the Big 4 Cities (Buffalo, Rochester, Syracuse, Yonkers) and for New York City. For the non Big 5 districts, New York school districts spend 57.4 percent of their total expenditures on salaries. This share includes 48.2 percent which was devoted to certificated salaries. The Big 4 City districts spend slightly smaller shares on certificated salaries (47.9), while New York City spend an even smaller share (45.3). Moreover, New York City and the other large cities spend at higher levels compared to other districts in the school-site administration category (2.7 percent for New York City and 3.4 percent for the other large cities, compared to 2.4 percent for the rest of the State). Of course, the higher average spending on an administrative category by the large city districts makes them vulnerable to charges that they are not operating efficiently and that valuable resources are being siphoned away from instructional uses.

TABLE 2A ABOUT HERE

District Spending. Turning now to the breakdowns by the selected district attributes, we found that higher spending districts spend disproportionately large amounts on non-administrative certificated salaries and classified salaries. These expenditure items involve specialist teachers of various kinds, teacher aides, and support staff. Higher spending districts also spend more on school site administrators than do their lower spending counterparts. The higher spending districts also manage to spend less in percentage terms on central administrators. They also appear to rely less heavily (again, in percentage terms) on the shared services offered by BOCES.

TABLE 2B ABOUT HERE

[14] More detailed breakdowns and descriptions of these budget categories are available in Appendix 1.

District Size. As district size increases, so does the percentage of spending devoted to teacher salaries. Size is also inversely related to the share devoted to central administration. This commonly found relationship is consistent with the claim that diseconomies of scale can be found in the operations of smaller districts. The spending share devoted to BOCES' shared services is also inversely related, as one would expect, to district size.

TABLE 2C ABOUT HERE

District Property Wealth. The relationship between district wealth and resource allocations are interesting. If we compare the top and bottom quintiles, we see a difference in the percentage of spending devoted to total salaries, but notice that the real difference occurs between the first and the second quintile. In other words, wealth does not need to increase by very much before the less wealthy districts begin allocating resources like the wealthiest districts in the State. Certificated teachers in the wealthiest districts receive slightly larger shares than do their counterparts in the poorest districts. Of course, the absolute levels of spending increase with property wealth. Spending per pupil on teacher salaries in the wealthiest districts was $4,727; the comparable figure in the poorest districts was $2,726. In percentage terms, the wealthier districts spend more on both classified salaries and non-administrative certificated personnel. There is also a tendency for the wealthier districts to rely less heavily on BOCES' shared services.

TABLE 2D ABOUT HERE

District Income. When we use income per pupil as the measure of district fiscal capacity, we find some interesting similarities and differences compared to the property wealth analyses. For example, the relationship between income per pupil and the share devoted to total salaries is positive and more gradual across the quintiles than was the case when we looked at the property wealth indicator of fiscal capacity. We also find a similar tendency for the share devoted to teacher salaries to increase slightly with income wealth per pupil. Again, we find a positive relationship between the share devoted to classified salaries and income wealth per pupil. Again, we find a positive relationship between the share devoted to classified salaries and income wealth per pupil; and there is a tendency for the high income districts to rely less heavily on BOCES' shared services.

TABLE 2E ABOUT HERE

Poverty Level. The breakdowns that deal with the percent of pupils in poverty need to be interpreted carefully because of the small number of districts with greater than 75 percent of students so classified. The broadness of the categories is another concern. Nevertheless, it is interesting to observe that the high poverty districts spend twice as much on BOCES services as the lowest poverty districts. This result holds in both absolute dollar and percentage terms. It is also interesting to note the small but steady decline in the percentage of spending devoted to teaching salaries as poverty increases. Partly, this may be due to problems surrounding the classification of specialists who are

employed to provide instructionally relevant assistance for "at-risk" students. Partly, it may reflect a shift of resources away from instructional and toward management and control kinds of services. It is not possible to ascertain more precisely how these resources are being used given the available data.

TABLE 2F ABOUT HERE

Percentage Minority. The percent minority breakdown is also difficult to interpret largely because of the broadness of the categories. What is remarkable about the table is how few of the relationships we observed earlier in the fiscal capacity and incidence of poverty breakdowns can be discerned here. It appears the incidence of minorities may play a unique role in the allocation of resources.

TABLE 2G ABOUT HERE

Performance Level. When we use performance level as the selected district attribute, we also find some interesting results. For example, although the relationship between performance level and the share devoted to total salaries increases gradually across the quintiles, the relationship between certificated salaries and performance is constant across the highest three quintiles. In contrast, the percentage of resources devoted to supplies is highest and constant across the three lowest performing quintiles, decreasing slightly in the fourth and fifth quintiles. These findings suggest that lower performing districts may substitute supplies (e.g., instructional materials) for higher teacher salaries.

The Disposition of Education Resources: Expenditures by Function of Expense

TABLE 3A ABOUT HERE

District Spending. The third block of tables (Tables 3A through 3F) focuses on how funds are allocated by function of expense. For the State as a whole (excluding the large city districts), we found that 52 percent of the total expenditures are devoted to instruction related budget categories. This is by far the largest share with the second largest being administration at 8.6 percent. It is interesting to note that spending by the large city districts on administration is a smaller percentage share than what we found for the rest of the State. Even in the school-site administration category, the spending shares are smaller than those found in the rest of the State. Recall that the object breakdown suggested the opposite result. The functional breakdown includes materials, supplies and other miscellaneous items in addition to salary expenses. Higher spending districts spend slightly smaller shares on instruction and larger shares on administration, pupil services, and maintenance and operations.

TABLE 3B ABOUT HERE

District Size. School district size is negatively related to the spending share for central administration. The share devoted to instruction is fairly steady across the size categories. The functions that gain share size in the larger districts are instructional support and maintenance and operations, although in no case is the gain very large.

TABLE 3C and 3D ABOUT HERE

District Property Wealth and Income. The two measures of fiscal capacity indicate that wealthier districts spend smaller shares on instruction and larger shares on instructional support, administration, pupil services, and maintenance and operations compared to poorer districts.

TABLES 3E and 3F ABOUT HERE

Poverty Level and Percentage Minority. The incidence of poverty measure suggests that poverty has little effect on the share devoted to instruction, a positive effect on the share devoted to administration, and a negative effect on the share devoted to maintenance and operations. Again, the breakdown by incidence of minority pupils is difficult to interpret. There is some evidence that as the percentage of minority pupils rises, the share of spending devoted to instruction increases slightly, as does the share devoted to administration. The reductions occur in the areas of instructional support, transportation, and food services.

TABLE 3G ABOUT HERE

Performance Level. The performance level indicator reveals that performance has a slightly negative association with the share devoted to instruction. For example, districts in the highest three performing quintiles spend greater that 52 percent of the total budget on instruction, while the district in the highest two performance quintiles spend less than 52 percent. In contrast, higher performing districts devote greater percentages of resources to maintenance and operations.

The Disposition of Education Resources: Allocation of Professional Staff

The above fiscal analyses provide a good starting point for understanding how resources are allocated across broad object and function categories. The next analyses move us more deeply into the educational system to begin to understand how professional staff are allocated within schooling systems. Because the largest share of school budgets is devoted to professional salaries and fringe benefits, it is sensible to focus our more micro level analyses on school staffing patterns.

Table 4 provides insight into the disposition of certain key educational resources within New York State school districts. In particular, the focus is on the disposition of professional staff members' time across various areas of school district operations.

Table 4
District-Wide Instructional and Administrative Staffing Patterns
Professional Staff per 1,000 District Pupils, 1991-92

	State Totals*	Big 4 Cities**	New York City
Staffing Category			
Elementary Education			
Elementary Regular	29.9	26.8	21.84
Elementary Special Educ.	3.67	5.66	4.73
Total Elementary Instruction	33.57	32.46	26.57
Secondary Education			
English	5.48	4.49	3.67
Mathematics	4.65	4.18	3.52
Social Studies	4.19	3.22	2.66
Science	4.23	3.03	2.39
Foreign Language	2.55	1.5	1.41
Music and Art	2.93	1.89	1.12
Phys. Ed and Health	2.56	2.03	1.61
Other Academic	0.98	2.18	2.02
Total Academic Education	27.57	22.52	18.4
Vocational			
Trade	2.28	2.91	1.07
Business	1.17	2.09	3.05
Other Vocational	0.34	0.55	0.3
Total Vocational Education	3.79	5.55	4.42
Special Education			
Resource Room	1.29	0.94	1.07
Special Classes	1.67	3.65	4.05
ESL	0.16	0.44	0.85
Other Special	0.11	0.23	0.32
Total Special Education	3.23	5.26	6.29
Total Secondary Education	34.59	33.34	29.11
Central Administration	1.18	1.07	0.9
School Administration	2.5	4.61	3.24
Special Administration	5.36	5.06	4.67
Subject Administration	1.54	3.27	3.56
Total District Administration	10.58	14.02	12.37
Total Professional Staffing	78.74	79.85	68.05

Note: *Excluding the Big 5 City Districts ** Buffalo, Rochester, Syracuse, and Yonkers

Table 4 indicates that, on average, New York State districts provide roughly comparable teacher/pupil staffing levels for their elementary programs relative to their

secondary programs (33.57 professional staff per 1.000 pupils at the elementary level versus 34.59 at the secondary level, including special and vocational education). Administrative positions are staffed at a rate of 10.58 positions per 1,000 pupils. These administrative positions comprise 13.4 percent of all of the total staffing investment on the part of the district, but it is important to note that this is a broad administrative category that includes building level administrators. Moreover, Table 4 clearly indicates that the largest administrative subcategory was special education administration.

Table 4 also provides insight into the disposition of staffing resources across subject areas within secondary schools. We can see that the investment in the academic area of the curriculum involves 27.57 teachers per 1,000 pupils or 79.71 percent of all teaching resources devoted to the secondary school program (grades 7-12). In contrast, the vocational and special education areas comprise 10.96 percent and 9.34 percent of the teacher resource base, respectively.[15]

The data also provide information about subject specific breakdowns. In particular, we can see that the resource intensities are highest in the English and mathematics areas of the curriculum, 5.48 and 4.65 teachers per 1,000 district pupils respectively. The figures for social studies and science courses are slightly smaller at 4.19 and 4.23, while the teaching resources devoted to foreign language courses are relatively low at 2.55. Allocations to specialized academic offerings like art and music and physical education and health are on the order of what we see for foreign language instruction.

Comparisons with the Big 5 City Districts.

The right hand columns in Table 4 permit comparisons between statewide average for the non-Big 5 city school districts in New York with the results for New York as well as with the remaining Big 4 city districts (Buffalo, Rochester, Syracuse, and Yonkers). These comparisons reveal some striking differences. In particular, in most areas of the curriculum, the teacher resource intensities in the core academic curriculum are lower in the Big Five City districts than they are elsewhere in the State. Some of the differences are large and as a general rule the resource intensity levels are lowest in New York City. For example, in English the resource intensity level for New York City is 3.67; the comparable figure for the Big 4 districts is 4.49 and it is 5.48 for the remaining districts in the State. In mathematics, New York City's number is 3.52. The analogous number for the Big 4 is 4.18 and for the rest of the State it is 4.65. In Science, the numbers are 2.39 for New York City, 3.03 for the Big 4, and 4.23 for the rest of the State. The pattern holds for social studies and foreign language allocations.

The administrative staffing intensity measures are also interesting for the cities. Compared with the State as a whole, it is clear that the number of administrators per pupil is higher in the city districts, but most of the extra staffing is to be found at the school

[15] These data measure only vocational and special education courses that are offered directly by the individual school district. Courses offered through regional cooperatives, called BOCES in New York State, are not reflected in these data.

rather than the central level of the administrative structure. In particular, the city districts register relatively high levels of administrative staffing at the building and at the subject area levels.

Breakdowns between advanced and remedial courses in core academic subjects

We also examined more refined breakdowns of the core academic areas of instruction. Specifically, we looked separately at advanced and remedial courses in the English, mathematics, social studies, science, and foreign language areas of the curriculum, what we called the core academic curriculum. Table 5 reports these results.

Table 5
Secondary School (7-12) Instructional Staffing Patterns
Refined Core Academic Subject Area Breakdowns
Professional Staff per 1,000 District Pupils, 1991-92

Staffing Categories	State Totals*	Big 4 Cities	New York City
English Total	5.48	4.49	3.67
Advanced	0.33	0.27	0.22
Regular	4.29	3.29	2.7
Remedial	0.86	0.94	0.75
Mathematics Total	4.65	4.18	3.52
Advanced	0.45	0.29	0.23
Regular	3.25	2.7	2.19
Remedial	0.96	1.2	1.1
Social Studies	4.19	3.22	2.66
Advanced	0.29	0.3	0.2
Regular	3.81	2.87	2.4
Remedial	0.1	0.05	0.06
Science Total	4.23	3.03	2.39
Advanced	0.34	0.21	0.19
Regular	3.84	2.8	2.17
Remedial	0.05	0.02	0.03
Foreign Languages Total	2.55	1.5	1.41
Advanced	0.13	0.11	0.09
Regular	2.42	1.4	1.31
Remedial	0	0	0
Total Advanced	1.54	1.18	0.93
Total Regular	17.6	13.05	10.78
Total Remedial	1.96	2.21	1.94
Total Core Academic	21.1	16.44	13.65

Note: Figures are weighted by district enrollment. *Excluding the Big 5 City Districts

In English and Mathematics, we found that a larger allocation of teacher resources goes to remedial rather than to advanced course offerings. More than twice the level of resources goes to remedial relative to advanced offerings in these areas. In English, for the non-Big 5 state averages, the intensities are .86 teachers per 1,000 district pupils for remedial courses compared to .33 for advanced courses; in mathematics, the comparable figures are .96 versus .45. A similar distribution can be found in the Big 5 city districts.

Quite a different pattern can be found in the science, social studies, and foreign language areas of the core academic curriculum. In these areas, larger shares of the teaching resources devoted to the subject in question are allocated to advanced courses. Again, the pattern is the same in the Big 5 city districts.

The foot of Table 5 provides insight into the aggregate division of resources among advanced, regular, and remedial course offerings regardless of the subject being taught. The results indicate a tendency to provide more resources to remedial rather than to advanced offerings. However, it is important to keep in mind that these measures of resource allocation are based on counts of all pupils in the district. The allocation of student time across course types is also relevant and will be considered later when the focus shifts to the utilization of resources.

Breakdowns by selected district structural characteristics

We were also interested in making comparisons among districts on the basis of structural characteristics such as school district spending levels, size, fiscal capacity, incidence of students living in poverty, and performance level.

TABLE 6A ABOUT HERE

District Spending. Table 6A reveals a remarkable degree of consistency across the spending quintiles, with the exception of the highest spending group of districts. For example, English receives between 5.20 and 5.43 teachers per 1,000 pupils until the 5th quintile is reached where the figure jumps to 6.10. Similar jumps can be observed in virtually all of the subject areas with the exception of the vocational offerings. The jump can also be observed in the special education area of the curriculum, although here there is more of a steady staffing increase as spending rises. Vocational offerings, in striking contrast, experience either flat or declining staff commitments as district expenditure levels increase.

The flatness of the profiles until the highest spending quintile is interesting. It suggests that as spending levels rise through the 4th quintile, the resources are devoted either to salary increases for existing staff or to other non–personnel uses. Recall that earlier we reported steady salary increases over the five quintiles. Something significant appears to be happening within the districts at the top spending levels.

There is one noteworthy departure from the tendency for the profiles to be flat across the lower 4 spending quintiles. This occurs in the special class category where the lowest spending districts report significantly fewer staffing resources devoted to special class forms of instruction than do their higher spending counterparts.

TABLE 6B ABOUT HERE

District Size. Table 6B shows that there are relatively high staffing per pupil levels in the smallest districts. It is interesting to find this result at the individual subject area level and to see that it is spread fairly evenly over the entire range of the distribution. In other words, it does not appear to be a phenomenon that dissipates rapidly as soon as the district reaches a relatively modest size.

Declines in Central Administrative staffing per pupil can also be found in these data. In contrast, administrative staffing in the other areas (school level, special service, and subject area) do not decline with district size. The expected administrative staffing reductions that become possible in theory as districts take advantage of economies of larger size appear to be confined to the central administration area.

TABLE 6C ABOUT HERE

District Property Wealth. The property wealth quintile breakdowns differ in an interesting way from what we found for the spending breakdowns. In particular, the lowest wealth districts tend to report higher staffing levels in many of their subject areas than do the districts in the next highest wealth levels. Recall that the expenditure breakdowns were characterized by remarkably flat profiles across the lower 4 spending quintiles. These higher staffing levels for the poorest districts may stem from the wealth equalized resource flows from state and Federal sources. However, it is important to note that while the staffing levels are higher for the poorest districts relative to other districts at the lower end of the property distribution, they remain substantially below the staffing levels shown for the wealthiest districts in the state. Moreover, the jump we found between the 4th and 5th quintiles in the spending breakdown can also be seen in the property wealth breakdown.

TABLE 6D ABOUT HERE

District Income. The income breakdown is quite similar to the property wealth breakdown. The districts falling into the lowest quintile report (in many of the subject areas) somewhat higher staffing levels than do the districts falling in the next highest income quintile. Moreover, we see again the jump between the 4th and 5th quintiles. The relative advantage observed for the lowest income districts is dwarfed by the advantage that can be observed for the highest income districts. Note that the wealthiest districts employ 10.70 more professional staff per 1,000 pupils (88.19) than do their next wealthiest counterparts (77.49).

TABLE 6E ABOUT HERE

Poverty Level. Again, the breakdowns by FRPL count are somewhat problematic given the uneven distribution of the districts across the cutpoints we have agreed upon as part of the multi–state CPRE effort. Recall that the highest poverty grouping contains only 4 districts. In general, the results show more of a steady inverse relationship between staffing levels and poverty than was found in the earlier breakdowns. In other words, there is less of a jump at the low poverty level, and the relatively high staffing levels in the lowest property wealth and lowest income districts can not be easily discerned in the highest poverty districts. However, we suspect this is due primarily to the fact that the poverty breakdowns do not provide even rough approximations of pupil quintiles.

TABLE 6F ABOUT HERE

Performance Level. The last table in this series provides a breakdown of the staffing patterns by performance level. School districts in the highest performance quintile employ more professional staff per 1,000 pupils than their lower performing counterparts. This holds true across the elementary, secondary, and administration categories.

Breakdowns by selected district structural characteristics: Core Secondary Subject Areas

TABLE 7A ABOUT HERE

We also examined the impact of spending levels on the division of resources within a given core academic subject area between advanced and remedial types of courses, and found some interesting results. For example, it is clear that the percentage share of advanced courses increases with spending levels. In other words, higher spending districts tend to devote a larger share of their core curriculum resource base to advanced rather than to remedial offerings. What this suggests is that the students in advanced classes in high spending districts are doubly advantaged. Not only is there a larger base level of resource available to them, but they receive a larger share of the base. For students in remedial classes, being in a high spending district has two conflicting effects. On the one hand, the higher spending districts have higher resource levels. On the other hand, remedial classes receive smaller shares of the resource base in the higher spending districts. On balance, the smaller percentage share is the dominating effect such that the absolute level of teacher resources is lower for the students in the remedial classes in the highest spending districts than it is for the students in the remedial classes in the lowest spending districts.

TABLE 7B ABOUT HERE

District Size. Table 7B reveals interesting trends: as district size increases, staffing commitments to advanced types of courses increase and commitments to regular and remedial types of courses decrease. In addition, while staffing commitments are high

in the smallest districts, relatively modest commitments are made to advanced courses within the core subject areas.

TABLE 7C ABOUT HERE

District Property Wealth. Table 7C reveals that the lowest wealth districts tend to report higher staffing levels in many of their subject areas than do the districts in the next highest wealth levels. Recall that these higher staffing levels for the poorest districts may stem from the wealth equalized resource flows from state and Federal sources. Again, it is important to note that while the staffing levels are higher for the poorest districts relative to other districts at the lower end of the poverty distribution, they remain substantially below the staffing levels shown for the wealthiest districts in the state. Also note that as wealth increases, staffing commitments to advanced areas of the curriculum also increase. Conversely, as wealth increases, staffing commitments to remedial areas of the curriculum decrease.

TABLE 7D ABOUT HERE

District Income. Again, the income breakdown is quite similar to the property wealth breakdown. That is, the districts falling into the lowest quintile report (in many of the subject areas) somewhat higher staffing levels than do the districts falling in the next highest income quintile. Moreover, we see again the jump between the 4th and 5th quintiles in overall resource intensity and similar trends regarding advanced and remedial areas of the curriculum. As income wealth increases, resource intensity in the advanced areas increases and resource intensity in the remedial areas decreases.

TABLE 7E ABOUT HERE

Poverty Level. Again, the breakdowns by FRPL count are somewhat problematic given the uneven distribution of the districts across the cutpoints. Keeping this limitation in mind, the results show a steady inverse relationship between staffing levels and poverty in the advanced and regular areas of the curriculum. In stark contrast, the table reveals a positive relationship between staffing and FRPL count in the remedial areas of the core.

TABLE 7F ABOUT HERE

Performance Level. In all core subject areas school districts in the highest performance quintile employ more professional staff per 1,000 pupils than their lower performing counterparts. Similar patterns emerge across the advanced, regular, and remedial breakdowns.

The Utilization of Education Resources

The disposition findings need to be viewed in light of information about the allocation of student time. A finding that there are 5.48 secondary English teachers per 1,000 pupils of district enrollment is difficult to interpret in the absence of parallel information about the allocation of student time to English. Is 5.48 too high, too low, or just about right? A normative question like this will never be easy to answer, but some insight can be gained by seeing how the allocation of the teaching resource base compares to the allocation of the student resource base, and this is the focus of our analysis of resource utilization.

Table 8[16]

District-Wide Secondary School (7-12) Instructional Staffing Patterns For Regular New York State School Districts and the Big 5 Cities (1991-92)

		State*			Big 4			NYC	
Staffing Category	TT * (%)	PT * (%)	TT/PT	TT * (%)	PT * (%)	TT/PT	TT * (%)	PT * (%)	TT/PT
English	15.84	16.57	0.96	13.60	15.67	0.87	12.61	14.72	0.86
Mathematics	13.44	14.22	0.95	12.62	14.92	0.85	12.09	14.88	0.81
Social Studies	12.11	14.97	0.81	9.70	12.99	0.75	9.14	12.72	0.72
Science	12.22	12.38	0.99	9.10	11.21	0.81	8.22	11.24	0.73
Foreign Languages	7.37	8.22	0.90	4.48	5.35	0.84	4.83	7.04	0.69
Music and Art	8.47	8.99	0.94	5.67	7.15	0.80	3.85	4.92	0.78
Phys Ed and Health	7.4	7.84	0.94	6.10	7.50	0.81	5.52	6.78	0.81
Other Academic	2.83	2.24	1.26	6.64	4.45	1.49	6.93	8.82	0.79
Total Academic Education	79.71	85.43	0.93	67.91	79.23	0.86	63.19	81.12	0.78
Trade	6.59	7.17	0.92	8.69	9.22	0.94	3.69	4.28	0.86
Business	3.38	3.26	1.04	6.19	4.14	1.50	10.50	5.76	1.82
Other Vocational	0.98	0.84	1.17	1.65	1.14	1.45	1.03	0.81	1.27
Total Vocational Education	10.96	11.27	0.97	16.53	14.50	0.88	15.22	10.85	1.40
Resource Rooms	3.73	0.98	3.81	2.81	0.73	3.85	3.68	0.89	4.13
Special Class	4.83	1.94	2.49	10.76	4.54	2.37	13.92	4.23	3.29
ESL	0.46	0.24	1.92	1.31	0.92	1.42	2.91	2.83	1.03
Other Special Education	0.32	0.13	2.46	0.68	0.06	11.33	1.10	0.08	13.75
Total Special Education	9.34	3.29	2.84	15.56	6.25	2.49	21.61	8.03	2.69
Average Pupil Load per FTE		83.43			78.49			98.21	

TT= Percentage share of total teacher-hours; PT= Percentage share of total pupil-hours. Both the TT and the PT percentages are figured on the total resource base for secondary instruction.

[16] Figures are weighted by district enrollment. Due to complications surrounding the reporting of pupil counts for music and physical education teachers, the percent pupil time (PT) for these areas was calculated using an average pupil load for all secondary teachers within each district.

Table 8 begins to provide some of the relevant information about the utilization of resources on a subject specific basis within secondary schools. The column marked TT reports that total number of teachers allocated to a particular subject area relative to the total number of teachers present within the secondary school. It can be interpreted as the percentage share of the teaching resource that has been allocated to the indicated subject areas.

The column marked PT reports the total number of student-hours spent within a given subject area relative to the total possible number of student-hours for the secondary school as a whole. It can be interpreted as the percentage share of the pool of student time that is allocated to the indicated subject area. These student time allocations are by-products of course selection decisions made by students, their parents, and perhaps their guidance counselors.

For example, Table 8 indicates that English receives 15.84 percent of the teacher resource that is available within the school. The Table also indicates (in the PT column) that English receives 16.57 percent of the total number of student-hours available within the school, for a ratio of 0.96 (column TT/PT). It follows that English receives a smaller share of the available teacher resource than it receives of the available student resource.

Notice that the ratios in the right-hand column of Table 8 for all of the named academic subject areas are less than 1.0. What this means is that the share of the teacher resource that is allocated to the subject area is smaller than the share of the pupil resource base that has been allocated. The fact that the named academic areas have ratios that are less than 1.0 implies that there are other areas of the curriculum with ratios that are greater than 1.0. And, as we might suspect, the special education portion of the curriculum shows ratios that are significantly greater than 1.0. Looking first at the State figures, the resource room heading shows a 3.81 while the special classroom heading shows a 2.49.

Comparisons with the Big 5 City Districts

Table also 8 provides the breakdowns for the Big Four city districts and New York City. The TT/PT figures for New York City are consistently lower in the academic areas than the Big Four Cities and the State as a whole. This suggests that academic professional staff in New York City face relatively high resource demands.

Breakdowns by selected district structural characteristics

Next we examined this kind of utilization data by selected district structural characteristics (see Tables 9A through 9F), and also by using the advanced versus remedial breakdowns that were introduced earlier (see Tables 10A through 10F).

TABLE 9A ABOUT HERE

District Spending. Looking first at Table 9A we see that the percentage shares for virtually all of the academic as well as vocational subjects either decline or remain constant as spending per pupil increases (i.e. TT). Indeed, in most cases (English, Mathematics, Social Studies, Trade and Business) the trend is negative. Science, Art and Music, Physical Education, Health and Other Vocational show steady percentage shares. The curricular areas that enjoy a growth in their respective shares of the resource pool are the special education area (resource room, special class and other special), miscellaneous regular, and English as a Second Language. Collectively, these curricular areas account for 9.02 per cent of the resource pool in the lowest spending districts and 14.94 per cent in the highest spending districts, a difference of 66 per cent.

TABLE 9B ABOUT HERE

District Size. In contrast, considerable inconsistency characterizes the behavior of subject matter shares of teacher resources as district size changes. Table 9B shows, for example, that in areas such as Mathematics, Trade, Music and Business there are negative relationships between district size and subject areas' respective teacher resource shares (TT). In contrast, positive relationships can be seen for Special Classes.

TABLES 9C AND 9D ABOUT HERE

District Property Wealth and Income. The quintile breakdowns for property wealth and income reveal quite similar results. As was the case for the spending level breakdowns, there are negative relationships revealed for a number of the academic and vocational subjects. Specifically, English, Mathematics, Social Studies, Trade, and Business tend to receive smaller teacher resource shares as the property wealth or income level of the district increases. The relationship appears to be different for Science where it is either flat or perhaps slightly positive. The balancing areas that receive unambiguously larger teacher resource shares as the fiscal capacity of the district increases are the Foreign Language, Resource Room and Special Class areas of the curriculum.

TABLE 9E ABOUT HERE

Poverty Level. Table 9E provides the breakdowns by the incidence of impoverished families and reveals some interesting departures from what the district fiscal capacity breakdowns showed. For example, share of teacher resources devoted to English increases or remains steady with the poverty indicator until the final grouping where the share drops significantly. In Science there is a steady decline in the share as the incidence of poverty increases. In Mathematics, the share increases and then decreases as poverty increases. The same can be said for the Social Studies share. Foreign Language shares decrease until the highest level of poverty where the share makes a small gain. The Art and Music share declines fairly steadily with increases in poverty.

The results for the special education area are interesting and inconsistent. For example, as poverty increases, the share devoted to resource rooms decreases while the share devoted to special classes increases, especially for the districts populated by the most intensely impoverished people. These high poverty districts also devote unusually high percentages of their teacher resources to ESL courses.

Similarly, in the vocational area of the curriculum, the results are inconsistent across type of course. The resource share enjoyed by Trade courses rises with poverty and then drops significantly when the poverty indicator reaches its highest values. In contrast, the share of the teacher resources devoted to Business courses increases as poverty becomes more intense.

TABLE 9F ABOUT HERE

Performance Level. As in the district size comparisons, considerable inconsistency characterizes the behavior of subject matter shares of teacher resources as performance level changes. Table 9F shows, for example, that in areas such as English, Mathematics, and Social Studies the second quintile has the highest TT figures, followed then by the highest quintile. It is unclear what gives rise to these staffing patterns in the second quintile.

In addition to the percentage share distributions of teacher resources across subject areas, Tables 9A–9F provide information about the distribution of students' time. These findings appear under the PT headings in these tables. We calculated the total number of pupil–hours that were spent within each of the high schools studied and then apportioned this total across the subject areas in accordance with the pupil enrollment data that was available to us using the state data tapes. Average pupil loads per full-time equivalent teacher for the various quintiles are also provided. As the notes to the Tables indicate, we faced difficulties in two areas of the curriculum. For example, in the music area, it appears that teachers who worked with small groups of students on a once a week (or other periodic) basis appeared to report a count of all of the students as if they taught them every day. This ballooned the pupil count for music and distorted the results. A similar problem arose with Physical Education personnel. Librarians, some of whom reported working with virtually every student in the school every day of the week, were dropped from the analysis. We were forced to make simplifying assumptions to bring the pupil counts for these personnel more into line with the numbers reported by other teachers.[17]

By comparing the percentage shares of teacher and student resources devoted to particular areas of the curriculum across the quintiles, we hoped to gain insight into the

[17] Inspection of the reporting of pupil counts showed that some teachers reported implausible numbers of students. Despite the obvious methodological problems associated with the approach, some filtering out of these suspect cases seemed essential. We developed a set of decision-making rules to flag (and subsequently remove from the pupil count analysis) those teachers whose pupil loads could be consistently identified as implausible.

nature of how these resources are utilized in schooling settings. The TT/PT columns report this information.

While there are some differences across the quintiles, for the most part these are quite modest (see Tables 9A through 9F). Indeed, it is remarkable to observe how similar the utilization indices are for districts that vary quite dramatically in terms of their spending, property wealth, income levels, incidence of pupils living in poverty, and performance. The real differences revealed by these data lie across the subject areas regardless of what kind of district is being considered.

To explore more fully differences across the quintiles in reference to subject areas, we examined this kind of utilization data by selected district structural characteristics by using the advanced versus remedial breakdowns that were introduced earlier (see Tables 10A through 10F).

Utilization of Resources in Core Subject Areas: District Structural Characteristics

TABLE 10A ABOUT HERE

District Spending. Looking first at Table 10A we see that the resources devoted to advanced areas of the curriculum in the core academic areas increases with district spending levels. Some of these increases are relatively dramatic. For example, the overall investment in advanced courses (pooling all areas of the academic curriculum) moves from 2.82 percent of the teacher resource base in the lowest spending districts to 6.36 percent of the teacher resource base for the highest spending districts. But, the percentage share of students enrolled in these advanced courses also increases, rising from 2.69 to 6.86 percent, so that in the net the ratio of the teacher resource share to the pupil resource share drops from 1.05 to 0.93. This means that the increase in the share of the teaching resource does not keep pace with the increased student demand for advanced classes. On balance, it means that class sizes in the advanced areas of the curriculum increase with district spending levels.

There is a parallel phenomenon transpiring for the remedial classes. Here the shares drop with spending levels, and the teacher share drops by more than the student share so that once again there are net increases in class size for remedial offerings as school district spending increases.

TABLE 10B ABOUT HERE

District Size. Again, considerable inconsistency characterizes the behavior of overall core subject matter shares of teacher resources as district size changes. Table 10B shows, for example, that in areas such as Mathematics, there are negative relationships between district size and subject areas' respective teacher resource shares. There are no discernible trends in the overall percentage shares of the other core areas. In examining

the core by refined subject area, however, we find interesting trends regarding advanced and remedial offerings. Positive relationships can be seen between district size and percentage shared for advanced areas of the core curriculum. We find a negative relationship between district size and percentage shares devoted to remedial areas of the core.

Perhaps the explanation for this variability lies in the degree to which diseconomies of small size vary across subject areas. Some subjects or instructional approaches may be more vulnerable to these diseconomies than are others, and the result may be additional demands for resources to meet the higher unit costs that these diseconomies generate. For example, negative relationships can be seen for remedial areas of the core curriculum. It may be that remedial types of courses are especially prone to small size diseconomies and that small districts meet these extra costs by supplying larger shares of resources than would ordinarily be the case.

Turning now to the TT/PT figures we see that, in general, as district size increases the utilization ratios decrease. This finding holds true in all cases when instructional time is expressed in terms of advanced, regular, and remedial courses. This means that the share of the teaching resource does <u>not</u> keep pace with the increased student demand as school size increases.

TABLES 10C AND 10D ABOUT HERE

<u>District Property Wealth and Income</u>. The quintile breakdowns for property wealth and income reveal quite similar results. As was the case with the spending quintiles, we find inconsistencies in the overall percentage shares in the core areas as district wealth increases. Specifically, English and Mathematics tend to receive smaller teacher resource shares as the property wealth or income level of the district increases. The relationship appears to be different for Science and Social Studies where there is no discernible trend. Foreign Language is a core subject that receives unambiguously larger teacher resource shares as the fiscal capacity of the district increases. We find a positive relationship between fiscal capacity and percentage shares devoted to advanced offerings within the core. We find a negative relationship between fiscal capacity and percentage shares devoted to remedial offerings within the core.

TABLE 10E ABOUT HERE

<u>Poverty Level</u>. Table 10E provides the breakdowns by the incidence of impoverished families. As was the case with the spending and wealth quintiles, we find interesting trends in the advanced and remedial offerings within the core. Lower percentage shares are devoted to advanced offerings as the incidence of pupils in poverty increases. Higher percentage shares are devoted to remedial offerings as poverty increases.

Turning to the TT/PT figures we see that, in general, as poverty levels increase the utilization ratios decrease. For example, in Science, the TT/PT ratio decreases from 1.01 in the first quintile to .89 in the fifth quintile. Similar trends emerge when core academic areas are grouped by level (e.g., advanced). This finding suggests that teachers in impoverished districts face relatively high demands on their time compared with teachers in less impoverished districts.

TABLE 10F ABOUT HERE

Performance Level. Table 10F provides the breakdowns by district performance level also reveal some interesting results. For example, in only the science and social studies areas of the curriculum do teacher resource levels increase as performance level increases. When core academic areas are grouped by level (e.g., advanced), while there are some differences across quintiles, for the most part these are quite modest. Indeed, it is remarkable to observe how similar the utilization indices are for districts that vary dramatically in terms of their performance levels.

III. Summary of Key Findings

Key Findings Regarding the Origination of Education Resources

- The majority of revenues generated for education in the State for the 1991-92 school year were derived from local sources (55.7%) with the local property tax accounting for nearly half of the total revenue in non-city districts. The State share was 42.1% and the Federal share was 2.2%.

- Higher spending districts rely more heavily on local revenues than do low spending districts, particular districts in the highest spending quintiles.

- There is some evidence that larger districts rely more heavily on local revenues and less heavily on State revenues than there smaller counterparts.

- As expected, districts with greater fiscal capacity, as measured by property wealth per pupil and income per pupil, rely more heavily on local revenues than their poorer counterparts.

- A greater percentage of non-property tax local revenue (user fees, etc.) is found in wealthier compared to poorer districts.

Key Findings Regarding the Disposition of Resources by Object and Function

- Regular districts in New York State spent 57.4 % of their total expenditures on salaries and 48.2% on certificated (professional) salaries in the 1991-92 school year.

- Large cities spend a greater percentage of their total expenditures on school site administration and a lower percentage on central administration than the State average.

- Higher spending districts spend more on non-administrative certificated salaries and classified salaries than their poorer counterparts. Higher spending districts also spend more in percentage terms on school site administrators and less on central administrators than their poorer counterparts.

- As district size increases, so does the percentage of spending devoted to teacher salaries. Size is inversely related to the share devoted to central administration.

- Wealthier districts spend more in percentage terms on both classified salaries and non-administrative certificated personnel than their poorer counterparts.

- Higher spending districts spend slightly smaller shares on instruction and larger shares on administration, pupil services, and maintenance and operations than their lower spending counterparts.

- The share devoted to instruction is fairly steady across school district size categories, while school district size is negatively related to the spending share for central administration.

- Wealthier districts spend smaller shares on instruction and larger shares on instructional support, administration, pupil services, and maintenance and operations than their poorer counterparts.

Key Findings Regarding the Disposition of Professional Staff

- New York State districts provide roughly comparable teacher/pupil staffing levels for their elementary programs relative to their secondary programs.

- The investment in the academic area of the curriculum comprises 79.71 percent of all teaching resources devoted to the secondary school program (grades 7-12). Excluding BOCES services, the vocational and special education areas comprise 10.96 percent and 9.34 percent of the teacher resource base, respectively.

- In most areas of the curriculum, the teacher resource intensities in the core academic curriculum are lower in the Big Five City districts than they are elsewhere in the State, with the lowest staffing intensity levels found in New York City.

- There is a tendency in the State to provide more resources to remedial rather than to advanced offerings.

- Resource intensity levels are remarkably flat across large differences in school district spending and wealth levels. It is only among the highest spending and wealthiest districts in the State that we began to find an increase in the number of teachers allocated to subjects on a per pupil basis.

Key Findings Regarding The Utilization of Education Resources

- In all named academic subjects the share of the teacher resource that is allocated to the subject area is smaller than the share of the pupil resource base that has been allocated. Areas of the curriculum in which the teacher resource share is greater than the pupil resource share are special education and portions of the vocational curriculum.

- Greater percentages of student time allocations in advanced courses are found in higher spending and wealthier school districts.

- Greater percentages of student time allocations in remedial courses are found in lower spending and poorer districts.

- As district spending increases, the share of the teaching resource does not keep pace with the increased student demand for advanced and remedial classes.

Chapter Four

Longitudinal Analysis Using State Collected Data

I. Introduction

Chapter Four presented our cross-sectional analyses of the three dimensions of resource allocation across New York State school systems for 1991-92. While these analyses provide useful insights into the allocation of resources at a given point in time, they may obscure important resource allocation trends that develop over extended periods. For example, in the early 1980's, New York State developed an ambitious and complex reform agenda which had significant implications for the allocation and use of human resources. Policy makers advocated a more rigorous educational system which included increased graduation requirements, higher standards for students and school personnel, and an emphasis on core curricula for all students. In addition, schools were urged to target resources to core academic subjects, such as mathematics, science and foreign language.

While it has been over a decade since New York State formally introduced it's reform agenda, it remains unclear as to how local education agencies have reconfigured their human resources in response to these reform efforts. Part of this ignorance is due to the lack of strong, consistent indicators of internal resource allocation phenomena. New York State's Education Department, however, maintains an extensive data collection operation which permits longitudinal analyses of resource flows within schooling systems. One goal of our research study was to unlock the potential of this kind of data collection system and demonstrate how these systems can be better utilized to inform policy makers in education. More specifically, we sought to demonstrate how State collected personnel data can be used to generate longitudinal indicators of the kinds of educational opportunities actually being delivered to students and how these opportunities have changed over time. In order to meet this objective, in this chapter we extend our cross-sectional analyses and examine resource allocation phenomena over time.

We begin the chapter with a brief review of the reform agenda in New York State and the implications these efforts have for the allocation and use of human resources. We then turn to a review and discussion of the empirical findings of our longitudinal analyses. The chapter concludes with a summary of the key findings.

II. An Era of Education Reform

In the 1980's and early 1990's, a multitude of national reports described an educational system plagued with ineffectiveness. On the Federal level, the most notable of these reform initiatives was A Nation at Risk (1983), published by the National

Commission on Excellence in Education. The Commission argued that the whole educational system needed to be restructured and revitalized through standardized, "back to the basics" curricula, increased graduation requirements, and state level control. Another influential national report, The Carnegie Forum on Education and the Economy Report (1986) proposed a different set of reforms; reforms that would enhance teacher professionalism and satisfaction in the workplace. In addition to higher teaching salaries, the Carnegie Report advocated a greater teacher voice in decision-making, increased opportunities for professional development, and more reasonable workloads for teachers.

New York was one of many states that quickly responded to the influential national reports of the 1980's and developed its own reform strategy.[18] The Board of Regents Action Plan to Improve Elementary and Secondary Education Results in New York (1984) echoed the "back to the basics" theme of the national reports and advocated increased graduation requirements, higher standards for personnel, and greater accountability. The most specific recommendations in the Regents Action Plan were targeted at secondary school curriculum, with particular emphasis placed on high school mathematics, science and foreign language curricula. The State's more recent reform strategy, A New Compact for Learning: Improving Public Elementary and Secondary Education Results in the 1990's (1991), is a systemic reform strategy which stresses principles of local control and decentralized decision-making.

A content analysis of these major reform efforts in New York State reveals four broad and overlapping categories of reform: 1) content emphases; 2) standards and expectations for students; 3) instructional time; and 4) standards and expectations for teachers. The first category of reform, content emphases, involves the standardization of a "core curriculum" for all students. The subject areas emphasized in this core curriculum are English, mathematics, science, social studies and foreign language. The second category of reform, standards and expectations for students, calls for increased graduation requirements, additional homework and additional assessments of student work. Also included in this category of reform is the effort to improve academic rigor of textbooks and instructional materials. The third category of reform, instructional time, focuses on maximizing the amount of learning opportunities for students through lengthening the school day, lengthening the school year and improvements in scheduling. The fourth category of reform, standards and expectations for teachers, encompasses issues of teacher accreditation, professional development and workplace satisfaction. Recommendations in this category of reform include enhancing professional development opportunities, encouraging innovation in the classroom through the use of grants and incentives, and reducing teacher workloads. In addition to reducing overall pupil loads, efforts in this area include minimizing disciplinary and administrative burdens for teachers.

[18] By 1990, over 40 states had increased graduation requirements. See Coley (1994).

It was not feasible to assess the local response to every aspect of this highly complex set of reforms. Consequently, it was important to establish some priorities. Any effort to simultaneously shift content emphases, raise standards for students, expand instructional opportunities, and improve the working environment of teachers, requires substantial changes in the manner in which school personnel are allocated and utilized. This chapter, with its focus on how human resources have been distributed and used over time, permits an analysis that cuts across all four categories of reform.

For example, The Board of Regents Action Plan (1984), explicitly calls for an increase in the graduation requirements in foreign language from one unit to four units. In order to meet the State's expectation in the foreign language area of the curriculum, school districts conceivably have four options regarding the allocation of human resources: 1) increase the class size within existing foreign language courses or require existing foreign language teachers to teach additional sections 2) shift existing staff members in other subject areas to foreign language; 3) recruit and hire additional teachers in foreign language; or 4) reconfigure human resources through some combination of the first three options.

There are a number of potential constraints at the local level which may limit the number of options available to a school district. Collective bargaining agreements, which typically specify teacher workload expectations and class size targets, may place limitations on what school districts can expect of existing staff (options one and two). Fiscal constraints might prohibit a poor district from adding additional staff (option three).[19] In this case, a district might be forced to consider the allocation and use of human resources a "zero-sum game", that is if one area receives additional resources, something else must be left out or de-emphasized. These potential constraints contribute to our rationale for integrating selected district structural characteristics to our analyses, such as school district size, district spending level, and district fiscal capacity.

Sample years selected for this inquiry are 1982-83, 1987-88, and 1991-92. These sample years were selected at approximately five year intervals to enable a longitudinal analysis of resource allocation trends. Another advantage of these sample years is that they intersect the two major stages of reform in New York State. The 1982-83 and 1987-88 sample years will reveal resource allocation trends prior to and following the publication of the Regent's Action Plan (1984). Similarly, the 1987-88 and 1991-92 sample years will reveal resource allocation trends prior to and following the publication of the New Compact for Learning (1991).

[19] For additional discussion of how collective bargaining agreements and other local constraints affect the resource allocation process, see Nakib (1995) and Roellke (1996)

III. Findings

Disposition Findings

Despite declining enrollments during the period, overall professional staffing levels in the State have increased substantially between 1983 to 1992. As Table 11 indicates, growth has not been linear as rapid growth took place between 1983 and 1988 and only modest growth in overall professional staffing took place between 1988 and 1992.

One possible explanation that this growth has plateaued is the recent reductions in State aid, coupled with budget defeats at the local level. Secondary schools have hired more professional staff relative to student enrollment than elementary schools. The increased high school graduation requirements as outlined in the Regents Action Plan (1984) may help explain why personnel growth in secondary schools has outpaced the growth in elementary schools. The growth in secondary school staffing appears to have been at the expense of administrative staffing areas. These findings are important because they suggest that school districts reconfigured staffing resources through a combination of adding new staff members and reallocating existing resources.

Comparisons with Big Five City Districts

Table 11 also reveals several noteworthy findings regarding the general staffing patterns in the big cities. Overall professional staffing levels in New York City have consistently trailed the levels in the other big cities and in the State as a whole. These differences are found at both the elementary and secondary level. Because the study is limited to an analysis of certified, professional staff, it is possible that these low staffing levels in New York City are due to a large number of non-professional and para-professional staff members being used in place of certified classroom teachers.

Another interesting finding is that big city staffing commitments to administrative areas have consistently outpaced the staffing commitments made to administration in the State as a whole. The higher administrative staffing levels in the large urban areas tend to be at the building and subject area levels. One can only surmise as to why these administrative levels are higher in the big cities. It is possible that the administrative burdens, such as student discipline, are greater at the school level in urban areas than in non-urban areas. The large size associated with urban schools may also contribute to the growth in subject area administration.[20]

[20] This explanation is consistent with the breakdowns by district size where the largest districts are found to have the highest staffing commitments to subject area administration. See Roellke (1996).

Comparisons By Secondary Subject Area

Table 11 also displays staffing pattern findings by secondary school subject areas. English maintains the highest resource intensity level of the core subject areas, although English also saw the greatest decline in human resource commitments during the period. Of the core subject areas, foreign language experienced the greatest growth in staffing(+44%). Staffing commitments to special education increased substantially during the period (+55%), while staffing levels in vocational areas of the curriculum declined (-18%). In addition, special education has become the most resource intensive instructional category within the big cities. Mathematics and science, two areas of the curriculum which have received considerable attention in the reform literature, experienced growth in staffing intensity levels between 1983 and 1988 and slight declines between 1988 and 1992. Staffing levels remained steady in social studies.

Disposition Findings: Refined Subject Area Trends Over Time

State trends in the staffing of refined subject areas (advanced, regular, and remedial) within the core curriculum are displayed in first three columns of Table 12. These findings indicate that staffing commitments to both advanced and remedial offerings in the core were greater in 1992 than in 1983. This growth, however, has not been linear and slight declines in both advanced and remedial staffing levels are evident from 1988 to 1992. A similar pattern is found for overall staffing commitments to the core subject areas. There were increases (+1.74 FTE) in overall staffing commitments to the five core subject areas between 1983 and 1988 and slight decreases between 1988 and 1992 (-.78 FTE). These modest fluctuations in instructional commitments to these core subject areas suggest that the majority of increased staffing during the period was experienced outside the core curriculum.

Table 12
Refined Secondary Subject Area Staffing Patterns
(Number of FTE Professional Staff per 1,000 District Pupils)
1982-83, 1987-88 and 1991-92 School Years

	State Totals			Big 4 Cities			NYC		
Staffing Category	1983 n=621	1988 n=644	1992 n=645	1983 n=4	1988 n=4	1992 n=4	1983 n=1	1988 n=1	1992 n=1
Total Advanced	1.21	1.62	1.55	0.78	1.23	1.18	0.93	1.02	0.70
Total Regular	17.29	18.13	17.60	12.54	13.73	3.05	10.78	11.60	11.46
Total Remedial	1.64	2.13	1.96	1.71	2.63	2.21	1.94	1.77	1.67
Total Core	20.14	21.88	21.10	15.03	17.59	16.44	13.65	14.38	13.83

48

Table 11
District-Wide Instructional and Administrative Staffing Patterns
(Number of FTE Professional Staff per 1,000 District Pupils)
State Totals, Big 4 City Districts, and New York City
1982-83, 1987-88 and 1991-92 School Years

	State Totals			Big 4 Cities			NYC		
Staffing Category	1983 n=621	1988 n=644	1992 n=645	1983 n=4	1988 n=4	1992 n=4	1983 n=1	1988 n=1	1992 n=1
Elementary Education									
Elementary Regular	22.83	28.25	29.90	2.46	26.93	26.80	17.25	23.15	21.84
Elementary Special Educ.	2.89	3.28	3.67	5.11	6.45	5.66	4.97	5.01	4.73
Total Elementary Instruction	25.71	31.53	33.57	27.57	33.38	32.46	22.22	28.16	26.57
Secondary Education									
English	5.69	5.88	5.48	4.37	4.88	4.49	4.22	3.94	3.67
Mathematics	4.46	4.90	4.65	3.76	4.54	4.18	3.36	3.57	3.52
Social Studies	4.23	4.20	4.19	3.29	3.47	3.22	2.63	2.78	2.66
Science	3.99	4.42	4.23	2.66	3.29	3.03	2.44	2.56	2.39
Foreign Language	1.77	2.49	2.55	0.95	1.40	1.50	1.18	1.54	1.41
Music and Art	2.69	3.02	2.93	1.67	2.08	1.89	1.36	1.41	1.12
Phys. Ed and Health	2.77	2.82	2.56	2.19	2.41	2.03	1.74	1.90	1.61
Other Academic	0.92	1.04	0.98	0.97	1.57	2.18	0.99	1.61	2.02
Total Academic Education	26.52	28.77	27.57	19.86	23.64	22.52	17.92	19.31	18.40
Vocational									
Trade	1.81	2.52	2.28	2.96	3.52	2.91	1.39	1.45	1.07
Business	1.68	1.44	1.17	1.32	1.18	2.09	1.12	0.90	3.05
Other Vocational	1.12	0.47	0.34	1.25	0.62	0.55	0.61	0.38	0.30
Total Vocational Education	4.61	4.43	3.79	5.53	5.32	5.55	3.12	2.73	4.42
Special Education									
Resource Room	0.97	1.20	1.29	1.05	1.36	0.94	0.63	1.12	1.07
Special Classes	1.05	1.51	1.67	2.67	4.17	3.65	3.21	4.28	4.05
ESL	0.07	0.12	0.16	0.37	0.56	0.44	0.70	1.11	0.85
Other Special	0.00	0.02	0.11	0.00	0.48	0.23	0.00	0.03	0.32
Total Special Education	2.09	2.85	3.23	4.09	6.57	5.26	4.54	6.54	6.29
Total Secondary Education	33.22	36.05	34.59	29.49	35.54	33.34	25.58	28.55	29.11
Central Administration	1.11	1.23	1.18	1.26	1.44	1.07	1.02	1.03	0.90
School Administration	2.30	2.54	2.50	3.85	4.64	4.61	3.10	3.39	3.24
Special Administration	4.18	4.90	5.36	3.71	5.02	5.06	3.57	4.13	4.67
Subject Administration	3.60	1.57	1.54	4.48	3.67	3.27	4.02	3.24	3.56
Total District Administration	11.19	10.23	10.58	13.29	14.77	14.02	11.71	11.79	12.37
Total Professional Staffing	70.12	77.81	78.73	70.35	83.69	79.82	59.51	8.51	68.04

Comparisons with the Big Five City Districts

Table 12 also displays staffing trends within the refined areas of the core curriculum for the large urban areas. The overall staffing commitments to the core subject areas in the big cities, particularly New York City, have been consistently lower than in the State as a whole. The big cities also tend to devote slightly fewer staff positions to advanced areas of the curriculum than the State average. In each of the sample years, the Big Four had higher remedial staffing levels than New York and the State average. The most dramatic differences, however, are found in the regular core offerings, where the big cities have consistently hired less professional staff per 1,000 pupils than the State average.

Breakdowns by Selected District Structural Characteristics

We were also interested in making comparisons among districts on the basis of structural characteristics such as district spending levels, school district fiscal capacity, and school district size. For each of the breakdowns by district type, we report findings for two of the three sample years. In each case, we have condensed the findings to depict general trends during the period. For more detailed tables which include specific subject area findings by district type and results for the 1987-88 school year, see Roellke (1996).

Table 13
Instructional and Administrative Staffing Patterns
(Number of FTE Professional Staff per 1,000 District Pupils)
By District Spending Level

1983	Q1	Q2	Q3	Q4	Q5
Staffing Category	1983 n=161	1983 n=141	1983 n=123	1983 n=85	1983 n=111
K-6	25.84	26.16	25.25	25.07	26.24
7-12	30.07	31.24	31.89	33.83	39.10
Admin.	9.56	10.33	10.49	11.70	13.86
Totals	65.47	67.72	67.63	70.60	79.20

1992	Q1	Q2	Q3	Q4	Q5
Staffing Category	*1992 n=87*	*1992 n=147*	*1992 n=167*	*1992 n=117*	*1992 n=127*
K-6	32.78	32.62	33.52	33.35	35.21
7-12	31.42	32.46	33.40	34.36	39.82
Admin.	8.15	9.23	9.49	10.97	13.85
Totals	72.35	74.32	76.42	78.68	88.87

Note: Figures are weighted by district enrollment.

District Spending. Table 13 presents disposition findings by district spending level for the 1982-83 and 1991-92 sample school years. These findings indicate that as district spending increases, overall staffing increases. These increases are modest though through the first four quintiles and then a substantial jump is found between the fourth and fifth quintiles in each of the two sample years. The highest spending districts (Q5) also experienced the greatest growth in overall staffing since 1983 with an increase of 9.57 FTEs per 1,000 district pupils. Also note that the highest spending districts were able to maintain their administrative staffing levels, while the other quintiles experienced reductions. Moreover, it was the lowest spending districts which experienced the greatest decline in overall administrative staffing (-1.41 FTEs).

Table 14
Instructional and Administrative Staffing Patterns
(Number of FTE Professional Staff per 1,000 District Pupils)
By District Property Wealth

1983	*Q1*	*Q2*	*Q3*	*Q4*	*Q5*
Staffing Category	*1983 n=135*	*1983 n=128*	*1983 n=105*	*1983 n=110*	*1983 n=143*
K-6	23.35	23.06	21.96	22.08	23.68
7-12	29.78	31.08	32.31	34.40	38.55
Admin.	9.82	10.01	10.93	11.37	13.81
Totals	66.00	66.93	68.25	70.45	78.99

1992	*Q1*	*Q2*	*Q3*	*Q4*	*Q5*
Staffing Category	*1992 n=194*	*1992 n=130*	*1992 n=103*	*1992 n=91*	*1992 n=127*
K-6	30.75	29.41	28.76	29.14	31.67
7-12	32.73	32.75	33.09	34.58	40.23
Admin.	8.86	9.56	9.63	11.19	13.90
Totals	75.71	75.45	74.96	78.59	89.92

Note: Figures are weighted by district enrollment.

District Property Wealth. Table 14 displays the findings for overall staffing intensity level by district wealth for two sample school years, 1982-83 and 1991-92. The wealth breakdowns reveal patterns similar to the spending breakdowns. Staffing intensities tend to increase as property wealth increases, with the most dramatic increases occurring between the fourth and fifth quintiles. A slight decrease in overall staffing is found between the second and third property wealth quintiles in 1992. The wealthiest

districts (Q5) experienced the greatest growth in overall staffing with an increase of 10.93 FTEs per 1,000 district pupils. Also note that the gap in staffing intensity between the poorest districts (Q1) and the wealthiest districts (Q5) has widened over the period. This widening of the gap is particularly prevalent in the administrative area where the poorest districts reduced FTE commitments by .96 FTE, while the richest districts were the only category of districts to increase staffing commitments to administration over the period.

District Size. Table 15 displays the staffing intensity findings for overall staffing level by district size for the 1982-83 and 1991-92 school year. The table shows that there are relatively high staffing per pupil levels in the smallest districts. A closer look at the individual staffing categories, however, reveals that benefits associated with economies of scale do not appear to filter into the administration area. In 1992, for example, districts with more than 5,000 pupils allocated more administrators per pupil than did districts between 500 and 1500 pupils. In addition, staffing levels drop dramatically from the first to second quintile and then decrease much less dramatically through the remaining quintiles. Commitments to professional staff within the smallest districts increased by 12.9% and in the largest districts by 12.3 %. These findings suggest that district size did not appear to substantially affect the rate of staffing growth within school districts over the period.

Table 15
Instructional and Administrative Staffing Patterns
(Number of FTE Professional Staff per 1,000 District Pupils)
By District Size

1983	*0-500*	*501-1000*	*1001-1500*	*1501-5000*	*5001-10000*	*over 1000*
Staffing Category	*1983 n=54*	*1983 n=99*	*1983 n=135*	*1983 n=255*	*1983 n=63*	*1983 n=15*
K-6	31.61	28.56	26.52	25.68	25.22	24.50
7-12	41.42	34.82	34.09	33.57	32.51	31.21
Admin.	13.10	10.42	10.54	11.37	11.68	9.97
Totals	*86.12*	*73.81*	*71.15*	*70.62*	*69.41*	*65.68*

1992	*0-500*	*501-1000*	*1001-1500*	*1501-5000*	*5001-10000*	*over 10000*
Staffing Category	*1992 n=65*	*1992 n=102*	*1992 n=144*	*1992 n=279*	*1992 n=58*	*1992 n=6*
K-6	40.67	36.14	34.70	33.27	33.22	30.97
7-12	45.52	37.53	35.77	34.21	33.98	32.41
Admin.	11.08	9.06	9.50	10.80	10.93	10.40
Totals	*97.27*	*82.73*	*79.98*	*78.28*	*78.13*	*73.77*

Percentage of Teacher Time by Secondary Subject Area

The above results provide insights into the intensity level of human resource allocation within the schooling systems of the State and how these intensity levels have changed since the 1982-83 school year. Table 16 displays the how the percentage share of teaching resources within secondary schools has been allocated over the same period.

Table 16
Percentage of Teacher Time by Secondary Subject Area
and Percentage of Teacher Time by Course Level
State Totals Minus the Big Five Cities

Staffing Category	*1983 n=621*	*1988 n=644*	*1992 n=645*	*Net Change 1983-1992*
Subject Area (7-12)				
English	17.13	16.31	15.84	-1.29
Mathematics	13.43	13.59	13.44	-.01
Science	12.01	12.26	12.22	+.21
Social Studies	12.73	11.65	12.11	-.62
Foreign Language	5.33	6.91	7.37	+2.04
Total Vocational	13.88	12.28	10.96	-2.92
Phys. Ed./Health	8.34	7.82	7.40	-.94
Music/Art	8.10	8.38	8.47	+.37
Special Education	6.29	7.90	9.34	+3.05
Other Secondary	2.77	2.88	2.83	+.06
Total Secondary	100	100	100	0
Course Level (7-12)*				
Total Advanced	3.64	4.49	4.48	+.84
Total Regular	52.05	50.29	50.88	-1.17
Total Remedial	4.94	5.91	5.66	+.72
Total Core	60.62	60.69	61.02	+.40

Note: Figures are weighted by district enrollment.
* Core subject areas only (English, mathematics, science, social studies, and foreign language)

Table 16 reveals that special education and foreign language experience the greatest percentage increases in teaching resources over the period, while English and vocational areas of the curriculum experienced the sharpest decline. Table 16 also displays the percentage of teacher time indicator by course level in the core academic subjects. The percentage of teaching resources in regular course offerings within the core

has decreased over the period, while percentage increases are found in advanced and remedial courses. The percentage of teaching resources devoted to all core subject areas experienced modest fluctuations over the period. This suggests that while overall staffing levels have increased over the period, and that there is some internal variation both within and outside the core subject areas (e.g., English vs. foreign language; special education vs. vocational education), school districts consistently devote roughly the same percentage share of the pool to the core curriculum.

Utilization Findings

The above disposition findings need to be viewed in light of information about the allocation of student time. A finding that there are 4.65 secondary math teachers per 1,000 district pupils enrolled, or that the percentage share of teaching resources devoted to special education is 9.34 percent is difficult to interpret in the absence of parallel information about the specific allocation of student time to these areas of the curriculum.

Table 17
Percentage of Pupil Time by Secondary Subject Area
and Percentage of Pupil Time by Course Level
State Totals Minus the Big Five Cities

Staffing Category	*1983 n=621*	*1988 n=644*	*1992 n=645*	*Net Change 1983-1992*
Subject Area (7-12)				
English	18.77	17.22	16.57	-2.20
Mathematics	14.45	14.16	14.22	-.23
Science	12.53	12.51	12.38	-.15
Social Studies	15.19	14.08	14.97	-.22
Foreign Language	5.29	7.48	8.22	+2.93
Total Vocational	13.26	12.44	11.27	-1.99
Phys. Ed./Health	8.67	8.43	7.84	-.83
Music/Art	8.07	8.89	8.99	+.92
Special Education	1.60	2.53	3.29	+1.69
Other Secondary	2.18	2.17	2.24	+.06
Course Level (7-12)*				
Total Advanced	3.83	4.56	4.59	+.76
Total Regular	58.99	56.91	58.19	-.80
Total Remedial	3.42	3.97	3.58	+.16
Total Core	66.24	65.45	66.37	+.13

* Core subject areas only (English, mathematics, science, social studies, and foreign language)

Table 17 displays percentage pupil time findings for the entire State (minus the Big Five City Districts). There are no net changes which exceed 3%. The greatest percentage increases are found in foreign language and special education and the sharpest percentage decrease is found in English and vocational areas of the secondary school curriculum. These vocational results represent student percentages based on courses offered only at the school level. New York State also provides for regional vocational offerings within Boards of Cooperative Education Services (BOCES). The modest declines in the percentage of pupil time devoted to mathematics and science (-.23 and -.22, respectively) are noteworthy given the heavy emphasis placed on these two subject areas in the reform literature.

Table 17 also displays the how the percentage of pupil time has been allocated by course level (advanced, regular, remedial) over time. Between the 1982-83 and 1987-88 school years, the percentage of student time allocated to both advanced and remedial courses increased and student time allocated to regular areas of the curriculum decreased. Between the 1987-88 and 1991-92 school years, pupil time shifted away from remedial offerings and back toward regular offerings. The percentage of pupil time allocated to advanced areas since 1987-88 has remained steady. Over the entire period, student time allocations to the core subject areas has changed very little. This finding is interesting given the State's heavy emphasis placed on core subject areas in the Board of Regents Action Plan (1984). This also indicates that although there may be some internal variation in student course taking behavior both within and outside the core (e.g., English vs. foreign language; special education vs. vocational education), the percentage of student time devoted to core subject areas remains steady.

Teacher Time/Pupil Time Utilization Ratios

The utilization ratios in Table 18 were calculated by dividing the percentage share of teaching resources devoted to a particular subject area by the percentage share of student time allocated to that subject. Recall that a ratio less than 1.0 indicates that the share of the teacher resource that is allocated to the subject area is smaller than the share of the pupil resource base that has been allocated. Greatest variations in the utilization ratios in academic areas over the period are found in foreign language and music/art. The overall utilization ratio for the academic portion of the curriculum, however, has remained remarkably consistent. This suggests that despite some internal variation within these academic areas, the overall shares of teaching and pupil resources devoted to the core curriculum remain steady.

Although the highest ratios are clearly found in the special education area of the curriculum, it should be noted that ratios have declined consistently over the period. Because there have been consistent increases in the allocation of pupil time in special

education over the period, this finding indicates that increases in pupil demand for special education are not matched with an equal increase in teacher supply. Conversely, student enrollments in vocational offerings have declined over the period. The declining ratios in vocational areas indicates that decreases in the allocation of teacher resources are outpacing the decreases in pupil time in vocational areas.

Table 18
Percentage Teacher Time/Percentage Pupil Time in Secondary Schools
State Totals Minus the Big Five Cities

Staffing Category	1983 n=621	1988 n=644	1992 n=645
Academic			
English	.91	.95	.96
Mathematics	.93	.96	.95
Social Studies	.84	.83	.81
Science	.96	.98	.99
Foreign Language	1.01	.92	.90
Music and Art	1.00	.94	.94
Phys Ed. and Health	.96	.93	.94
Other Academic	1.27	1.32	1.26
Total Academic	.94	.94	.93
Vocational			
Trade	1.15	.95	.92
Business	.93	.97	1.04
Other Vocational	1.10	1.21	1.17
Total Vocational	1.05	.98	.97
Special Education			
Resource Rooms	4.57	4.10	3.81
Special Classes	3.67	2.62	2.49
ESL	2.10	3.00	1.92
Other Special Education	--	6.00	2.46
Total Special Education	3.93	3.12	2.84
Course Level			
Advanced	.95	.98	.98
Regular	.88	.88	.87
Remedial	1.44	1.49	1.58
Total Core	.92	.93	.92

* Core subject areas only

Table 18 also displays utilization ratios by course level (advanced, regular, and remedial) within the core subject areas. Recall that, during the period, there is some evidence that students were moving out of regular offerings and into advanced and remedial offerings. The steady utilization ratio for regular offerings within the core reported in Table 8 suggests that an equal percentage share of the teacher time and student time resource shifted out of regular offerings. Also note that the utilization ratios for advanced and regular offerings remained steady between the 1987-88 and 1991-92 school year, while the ratio in remedial offerings increased by .14. This suggests two things: 1) that the supply of teachers allocated to remedial education outpaced the increase in student demand for these courses; and 2) this increased supply of teachers to remedial courses occurred at the expense of a subject area outside the core.

Overall Pupil Load

Table 19
Overall Pupil Load per Full-Time Equivalent Teacher
By Secondary School Subject Area and Course Level
State Totals Minus the Big Five Cities

Subject Area	*1983*	*1988*	*1992*	*Change 1983-1992*
English	104.02	92.16	92.88	-11.14
Math	102.89	91.67	94.36	-8.53
Science	99.48	89.43	89.99	-9.49
Social Studies	112.93	05.20	109.13	-3.80
Foreign Language	95.76	96.16	99.90	+4.14
Course Level				
All Advanced	99.10	87.61	88.09	-11.01
All Regular	106.39	98.87	101.48	-4.91
All Remedial	67.20	61.86	54.96	-12.24
Total Core	96.11	87.74	85.47	-10.64

Note: Figures are weighted by district enrollment.

Table 19 presents the overall pupil demand results for the State as a whole (minus the Big Five cities). With the exception of foreign language, overall pupil loads within the core subject areas have declined since 1983. English areas of the curriculum had the greatest reduction with a net drop of over 11 pupils per FTE. The most modest declines are found in the social studies area of the secondary school curriculum. A combination of reduced student enrollment over the period and increased professional staffing contribute to these declines in the overall pupil load. Table 19 also displays the overall pupil loads by course level within the core subject areas. Overall pupil loads in advanced courses and remedial courses tend to be substantially lower than the overall load in regular courses.

Remedial courses experienced the greatest decline in overall pupil load with a net change of -12.24 pupils per FTE.

Table 20 displays the overall pupil load per full-time-equivalent teacher within secondary school core subject areas for the big cities. Differences between the large urban areas and the State as a whole are found in these indicators of resource utilization. Overall pupil loads are substantially greater in the Big Four and New York City than the State average.

Table 20
Overall Pupil Load per Full-Time Equivalent Teacher
Refined Secondary School Subject Area
Big Four and New York City

	Big Four				NYC		
Staffing Category	*1983 n=4*	*1988 n=4*	*1992 n=4*		*1983 n=1*	*1988 n=1*	*1992 n=1*
English	113.09	98.38	93.26		110.19	115.10	111.71
Math Total	103.91	92.03	96.34		108.73	118.46	117.78
Science Total	118.04	97.05	99.56		132.83	130.53	130.87
Social Studies Total	119.53	105.06	109.04		126.97	134.19	133.19
Foreign Language	101.29	96.60	96.75		134.45	136.49	139.40
Total Advanced	110.49	89.93	93.98		118.51	124.60	126.77
Total Regular	114.06	102.18	103.52		124.42	129.87	129.79
Total Remedial	81.76	81.98	75.05		96.01	99.44	97.91
Total Core	107.19	93.34	92.30		117.22	119.29	119.60

Note: Figures are weighted by district enrollment.

Pupil demand reaches a high of 139.40 pupils per FTE for foreign language in New York City in the 1991-92 school year. While other regions of the State have experienced a reduction in overall pupil loads, professional staff in New York City have experienced stable and even increasing pupil loads. Pupil loads in remedial offerings within New York City in 1992, for example, exceed the remedial loads in the Big Four by over 22 pupils and exceed the State average by nearly 43 pupils.

IV. Summary of Key Findings

Key Findings Regarding the Allocation of Human Resources:

- During the period 1983-1992, elementary enrollments in New York State increased by 10.8% and professional staffing levels increased by 30.6%.

- During the period 1983-1992, secondary enrollments decreased by 16.8% while staffing levels increased by 4.1%.

- Staffing commitments to special education areas of the curriculum increased by 55% between 1983-1992.

- Staffing commitments to foreign language increased by over 44% during the period.

- Of the core subject areas, staffing commitments to science and mathematics increased by 5.7% and 4.3% respectively. English experienced a 3.7% decline in overall staffing and social studies saw a modest reduction.

- Vocational areas of the curriculum experienced an 18% reduction in staffing between 1983 and 1992.

- Staffing commitments to both advanced and remedial offerings within the core were greater in 1992 than in 1983. This growth, however, has not been linear and slight declines in both advanced and remedial staffing levels are evident from 1988 to 1992.

- Overall professional staffing levels in New York City have consistently trailed the levels in the Big Four and the State as a whole. Since, 1983, for example, overall staffing levels in the Big Four have been at least ten FTEs higher (per 1,000 pupils) than the overall staffing levels in New York City.

- Special education is the most resource intensive instructional category within the big cities.

- The big cities hire far fewer professional staff (as much as 36% less) in regular core offerings than the State average. The big cities also tend to devote slightly fewer staff positions to advanced areas of the curriculum than the State average.

- As district spending increases and district wealth increases, overall staffing intensity increases. The increases are most substantial between the fourth and fifth quintiles for both spending and wealth.

- As spending increases and district property wealth increases, staffing commitments to advanced areas of the curriculum increases.

- The gap in staffing intensity levels between the lowest spending and poorest districts and the highest spending and wealthiest districts has widened since 1983.

- Relatively high staffing per pupil levels are found in the smallest school districts. District size, however, did not appear to substantially effect the rate of staffing growth within districts.

- As district size increases, staffing commitments to remedial areas of the curriculum decreases. Conversely, as district size increases, staffing commitments to advanced areas of the curriculum increase. The largest districts commit nearly five times as many staff members to advanced areas of the curriculum than do the smallest districts.

Key Findings Regarding the Utilization of Human Resources:

- The allocation of student time across core subject areas has changed very little since 1983. There are no net changes in the allocation of pupil time which exceed 2% in any core subject category.

- Although English maintains the highest allocation of pupil time, this percentage has declined consistently since 1983.

- Within the core subject areas, foreign language has experienced the greatest growth in the allocation of student time.

- Slight increases in the percentage of pupil time are found for all advanced areas of the secondary school curriculum, with the greatest increase found in advanced mathematics.

- With the exception of remedial English, student enrollments in remedial offerings within the core subject areas have increased since 1983.

- The percentage of pupil time devoted to regular courses within the core curriculum has declined since 1983. These findings suggest that students formerly enrolled in regular offerings may be shifting into advanced or remedial offerings.

- As district spending, wealth and size increase, the percentage of student time devoted to advanced areas of the curriculum increase. Conversely, as district spending, wealth and size increase, the percentage of student time devoted to remedial offerings tends to decrease.

- With the exception of foreign language, overall pupil loads within the core subject areas have reduced since 1983. English areas of the curriculum had the greatest reduction with a net change of over 11 pupils per FTE. Within the refined areas of the core curriculum, the greatest decline is found in advanced mathematics with a net change of over 15 pupils per FTE.

- The overall pupil loads have been substantially greater in the big cities than the State average. Pupil loads in remedial offerings within New York City have experienced stable and even increasing pupil loads.

Chapter Five
Case Study Data

I. Introduction

While state-compiled data sets provide useful approximations of the distribution of resources across expenditure categories across districts, limits inherent in the use of aggregated district financial reporting documents prohibit more informative analysis of resource allocation patterns. Indeed, state aggregated data sets often fail to disclose differences in the allocation of resources between schools within the same district. Moreover, aggregated data sets provide little insight into the internal decision making processes that produce any given distribution of resources.

One broad based research effort has moved beyond traditional data set analysis to examine the distribution of resources at sub-district levels. Employing a model developed by Bruce Cooper, Coopers & Lybrand's School District Budget Model (SDBM) organizes district financial information into various functions (instruction-schools, instructional support schools, operations central and districts, pass-throughs, and debt service) and school types (pre-kindergarten, elementary, middle, high, and non-school) (Coopers & Lybrand, 1994). The SDBM can also be used to account for educational programs: special education, bilingual/ESL, other categorical, and regular education.

The SDBM does not limit its resource flow analysis to the district-level. Utilizing data gathered at specific school sites, the SDBM also explores the allocation of resources at the school level. For example, the SDBM has the capacity to track expenditures to the central office or individual school sites, and functions within these units. Thus, unlike analyses dependent on aggregated district data, the SDBM has the ability discover expenditure variations between schools within the same district. The SDBM has been used to examine resource allocation patterns in New York City's and Omaha's public schools systems (Coopers & Lybrand, 1994, 1995).

While this progress toward accounting for resource flows at multiple levels of educational systems is heartening, we take the view that further refinement is necessary and desirable for policy making purposes. In particular, we want to move beyond aggregated measures of the use of instructional resources and characterize all of the uses to which teachers put their time. These uses include course offerings in specific areas of the curriculum, but they also include things like preparation periods and duty assignments to activities like study halls. We also want to move beyond measures of the quantities of teacher time. Part of our motivation here is to begin to deal with the qualitative dimension of teacher resource use and this is simply not possible if the analysis is restricted to gross measures of the amount of resources devoted to instruction.

In this chapter, we present case study findings based on data collected at four school districts across the State. This analysis is intended to both supplement and complement the empirical findings reported earlier. Indeed, while both the empirical and

qualitative findings are meaningful in their own right, a deeper understanding of resource allocation phenomena can be gleaned when the one set of findings is considered in light of the other. State collected data, for example, has provided useful indicators of trends in the allocation and use of professional staff within the entire State. The case study data can help explain what gives rise to these trends. Recall from the empirical analyses, for example, that foreign language and special education areas of the curriculum experienced the greatest increases in teaching resources between 1983 and 1992. It will be important to understand how decisions about these increased allocations have been made.

This chapter is divided into two main sections. The first section presents findings obtained through the application of a micro-level cost allocation model to six secondary schools within the four case study sites. In particular, the model allows us to measure the distribution of instructional personnel costs across curricular areas (e.g., English), course offerings (e.g., English 9), and course levels (e.g., advanced, regular, remedial). This micro-level examination of instructional personnel costs also gave us the opportunity to quantify two teacher resources that have received virtually no attention: the time teachers spend on preparation and the time teachers devote to non-instructional duties.

Section II of this chapter explores more deeply resource allocation phenomenon and presents findings derived from a qualitative examination of resource allocation processes at ten schools within the four sites. In particular, through the use of interview data we explore the conditions and constraints at the local level which impact the configuration of professional staff within schools and classrooms.

II. Micro-level Cost Allocation Model

Disposition Patterns by Secondary School Subject Area

In the disposition analysis, we report findings in several ways. First, we calculated the instructional personnel costs per pupil for each curricular program area across the six sites. For example, we calculated the instructional personnel costs incurred by each school to support a given program area and divided this figure by the total number students enrolled in courses within that area.[21] This measure provides insight into the intensity of instructional resources made available to different program areas within and between schools. Table 21 summarizes the teacher costs per pupil by program area for each school.[22]

Several things can be noticed immediately if we look at the results presented in Table 21. First, personnel costs per pupil by program area vary greatly among districts. For example, the Small Poor and Large Poor districts spend significantly less on Math than their wealthier counterparts. Similar spending patterns emerge between poor and

[21] See Chapter 3 for a detailed description of the methodology.

[22] School A and School B are used to differentiate between individual schools within districts that contain two high schools.

wealthy districts in the English, science, and social studies programs areas, although the disparities are much less pronounced.

Table 21
Instructional Personnel Costs Per Pupil by Program Area in Dollars, 1994-95

Program Area	Small Poor	Large Poor School A	Large Poor School B	Large Wealthy School A	Large Wealthy School B	Small Wealthy
English	$364	$395	$437	$612	$548	$416
Soc. Studies	419	325	332	484	449	362
Math	300	410	471	588	633	555
Science	440	589	554	635	571	863
Language	611	377	448	781	663	530
Business	344	283	301	686	532	419
Health	261	152	200	198	215	250
Physical Ed.	119	136	112	467	471	211
Art	472	386	502	728	524	319
Music	866	568	476	702	1114	404
Driver Ed.		388	232			
Special Ed.[23]	3551	1,494	820	3404	3695	2020
Teacher Duties	N/A	N/A	N/A	N/A	N/A	N/A

One explanation for disparities in the per pupil personnel costs across schools is that "price-level" differences in the costs of resources exist across districts. In other words, it would not be surprising to find that wealthier districts pay their teachers higher salaries, thereby inflating the instructional personnel costs per pupil in these schools. Although there are indexes to adjust for differences in teacher salaries across districts, these indices are at early stages of development and subject to many challenges. It is interesting to note, however, that in this study the average teacher salaries are higher in the districts labeled as "wealthy." This finding suggests that differences in per pupil instructional personnel costs in core program areas are at least partially explained by differences in salary structures across district types.

Price level differences, however, cannot explain variances in instructional personnel costs per pupil across program areas within the same school or district. As evidenced by Table 21, there are large disparities in amount of resources that districts devote to different program areas within the same school. For example, across all schools, either foreign language or science have the highest instructional personnel costs per pupil

[23] These figures do not include district expenditures to Boards of Cooperative Educational Services (BOCES) for the provision of special education services. BOCES are voluntary, cooperative associations of school districts in a geographic area, which have banded together to provide educational or business services more economically than each could offer by itself. There are 41 BOCES regions in New York State.

of the core program areas. Other high spending program areas are music and special education. In contrast, physical education and health consistently spend the lowest amount per pupil on instructional personnel costs.

Table 22
Instructional Personnel Costs Per Pupil by Core Program Area in Dollars, 1994-95

Program Area	Small Poor	Large Poor School A	Large Poor School B	Large Wealthy School A	Large Wealthy School B	Small Wealthy
English						
Advanced		234	276	258	395	336
Regular	251	237	260	379	379	319
Remedial	242	321	311	1294	794	
Social Studies						
Advanced		303	310	484	493	298
Regular	269	240	211	348	314	277
Remedial	231	295	246	857	683	
Math						
Advanced		277		347	325	742
Regular	206	262	287	378	386	778
Remedial	237	295	375	505	683	301
Science						
Advanced		294	476	160	138	437
Regular	380	457	447	340	382	330
Remedial	208	342	261	616	513	652
Foreign Lang.						
Advanced				549	507	
Regular	611	390	477	435	353	530
Remedial		199	220			

Table 22 further highlights disparities in resource use within schools by displaying instructional personnel costs per pupil within the core curricular areas by course level. The table reveals that the Small Poor school offers no advanced courses in the core program areas. In contrast, with a single exception, advanced courses are offered in all other schools in the English, social studies, math, and science areas. Table 22 also reveals that per pupil instructional personnel costs are often highest in the remedial areas of the core curriculum. This holds particularly true in the large wealthy and small wealthy schools.

Differences in these program-specific resource intensities can arise form two sources. First, there can be differences in the personnel costs of individuals assigned to different program areas. For example, all else being equal, if more senior teachers (i.e., higher paid) were assigned to a given program area, we would expect relatively higher teacher costs per pupil. Second, differences in class size directly influence the per pupil

cost figures. In this case, one would expect higher instructional costs per pupil in programs areas with relatively small class sizes, all else being equal.

In order to disentangle the effect these phenomena have on district spending patterns, we re-analyzed the data using average teacher salary figures for each district. In other words, we assumed that all district personnel earn the same salary. Table 23 displays the results of this simulation by program area for the Large Poor schools.

Table 23
Percentage Change in Instructional Personnel Costs
Due to Salary Differentials, 1994-95

		School A			School B	
	Instruct. Cost Per Unit	Instruct. Cost Per Unit	Percent	Instruct. Cost Per Unit	Instruct. Cost Per Unit	Percent
Program	Act. Salary	Avg. Salary	Change	Act. Salary	Avg. Salary	Change
English	395	416	5%	437	412	-6%
Social Studies	325	319	-2%	332	338	2%
Math	410	414	1%	471	436	-7%
Science	589	512	-13%	554	556	0%
Foreign Language	377	425	13%	448	462	3%
Art	386	468	21%	502	443	-12%
Music	568	490	-14%	476	414	-13%
Business	283	278	-2%	301	346	15%
Health	152	206	36%	200	225	13%
Physical Education	136	130	-4%	112	111	-1%
Drivers Ed.	388	317	-18%	232	200	-14%
Special Education	1494	1524	2%	820	934	14%

The second column of Table 23 reports the instructional personnel costs per program when salary levels are held constant. The figures reported therein reveal that variations in the resources devoted to specific areas of the curriculum still exist. Interestingly, spending patterns similar to those reported in Table 21 emerge. For example, across both schools, science and foreign language still have the highest instructional personnel costs per pupil of the core program areas. Moreover, music, art, and special education maintain high spending levels while health and physical education spend the lowest amount per pupil on instructional personnel costs. The findings suggest that differences in per pupil expenditures are driven by variations in class size, not salaries. This finding is not surprising given that teacher compensation packages are not linked to subject areas. [24]

[24] Similar patterns emerged in the other three sites. In addition, the ratio of the standard deviations of the adjusted teacher cost figures and the actual teacher cost figures is 0.98:1.00, further pointing to the limited role salary plays in spending differences across program areas within schools.

Given our interest in internal resource allocation practices, it is important to examine directly the decision to divide the pool of resource in one fashion rather than another. To this end we introduce a second type of resource allocation indicator that looks exclusively at the share of the available pool that is allocated to each area of the curriculum. Thus, for each area of the curriculum we provide the percent of total instructional personnel costs that are devoted to the program area.

Table 24
Instructional Personnel Costs by Program Area as Percent of Total Program Instructional Costs, 1994-95

Program Area	Small Poor	Large Poor School A	Large Poor School B	Large Wealthy School A	Large Wealthy School B	Small Wealthy
English	14%	12%	14%	14%	13%	12%
Soc. Studies	13%	13%	13%	12%	13%	12%
Math	8%	11%	12%	11%	12%	13%
Science	10%	16%	13%	13%	13%	19%
Language	8%	6%	8%	10%	10%	10%
Business	6%	8%	9%	7%	7%	7%
Health	2%	1%	1%	2%	2%	2%
Physical Ed.	5%	10%	8%	9%	9%	5%
Art	6%	4%	4%	7%	7%	4%
Music	9%	6%	6%	4%	5%	5%
Driver Ed.		2%	1%			
Special Ed.[25]	9%	8%	7%	6%	7%	4%
Teacher Duties	12%	4%	4%	5%	2%	7%

Table 24 reveals that when program instructional personnel costs are expressed as a percent of total instructional personnel costs, the resources devoted to specific areas of the curriculum are quite similar across schools. This is particularly true of schools within the same district. For example, with few exceptions, the percentage of instructional resources devoted to the core program areas (English, social studies, math, science, and foreign language) vary only slightly across districts. This suggests that, while the size of the district's pool of resources may vary among districts, in general, districts assign similar priorities to program types when dividing this pool.[26]

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[25] The percent of resources allocated to special education versus regular program areas is much less than has been reported in other research efforts. For example, in a recent study of expenditures across New York State school districts, Lankford and Wyckoff (1995b) estimate the percentage of instructional resources allocated to special education to be approximately 20 percent.[25] The significant gap between the percentages reported here and those found by Lankford and Wyckoff are partially explained by the exclusion BOCES related special education costs and the focus on secondary schools only.

[26] There are, however, some exceptions to this general trend. Most notably, the comparatively high percentage of resources devoted to the science program areas in School A of the Large Poor district and the Small Wealthy district. In both cases it was found that these schools offer general level courses within

Our micro-level examination of instructional personnel costs per program area also gave us the opportunity to quantify teacher two resource uses that have received virtually no attention in the literature: time devoted to duty periods and time devoted to class preparation.

Teachers are often required to monitor study halls, the corridors, or perform cafeteria duty. Table 24 reports that the percentage of total instructional personnel costs devoted to these non-instructional duties range from two to 12 percent. It also reveals that smaller districts require their teachers to devote significantly more of their time to the performance of non-instructional duties than their larger counterparts.

In addition to direct classroom instruction and teacher duties, teachers are also assigned a number of preparation periods. For our purposes, all periods for which teachers where not assigned to direct classroom instruction or duties were counted as preparation periods. Moreover, teacher preparation time does not include the contracted time set aside for teachers to eat lunch. Table 25 presents teacher preparation time per program area as a percent of total instructional personnel costs per program area.

Table 25
Teacher Preparation Time Per Program Area as a Percent of
Total Instructional Personnel Costs per Program Area.

Program Area	Small Poor	Large Poor School A	Large Poor School B	Large Wealthy School A	Large Wealthy School B	Small Wealthy
English Prep	36%	33%	36%	23%	33%	31%
Soc. St. Prep	34%	32%	38%	26%	34%	30%
Math Prep	31%	36%	36%	23%	36%	32%
Science Prep	31%	30%	30%	30%	36%	24%
Lang. Prep	33%	27%	38%	28%	34%	33%
Business Prep	28%	24%	21%	21%	35%	29%
Health Prep	38%	29%	38%	15%	14%	23%
P.E. Prep	32%	22%	41%	19%	27%	18%
Art Prep	33%	36%	34%	26%	27%	17%
Music Prep[27]	81%	62%	67%	46%	25%	76%

Table 25 reveals that, in general, teacher preparation time is quite varied across program areas and schools. A more interesting finding, however, is the amount of teacher resource use that is devoted to preparation time. These figures suggest that, on average,

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each sub-discipline of the core science curriculum (e.g., general physics), thereby increasing the instructional costs of this program area. Similarly, the comparatively low percentage of teacher resources devoted to language in School A of the Large Poor district is explained by the low salary levels of newly hired teachers in this program area.

[27] Due to limitations in the data sources, it was not possible to distinguish between periods devoted to individualized lessons from periods devoted to preparation. Therefore, the percentage of instructional costs allocated to music preparation time is overstated.

teachers are allocated between 2-3 preparations periods per 8 period day. Again, these figures do not include contracted time for lunch.

The Use of Teaching Resources Within Secondary Schools

To address our interest in the utilization of resources, we first made a calculation of the pupil-time resource. In other words, we generated a series of program specific indicators that tell us the percentage of the pool of student-time resource that is devoted to each area of the curriculum. With the percent teacher time and percent pupil time in hand it became possible to generate an index of resource utilization. In our analyses, we relied upon a ratio of the two percentages as our measure of resource utilization. The teacher resource share appears in the numerator of the ratio, so a figure of 1.3 for a given subject area suggests that 30 percent more teacher resources are devoted to the subject area in question. Thus, low readings in on this indicator suggest that the teacher resource in question is facing relatively heavy demands. Table 26 displays the results of these calculations.

This analysis revealed several striking results. First, with the exception of Special Education, the highest indices often occur within the music area of the curriculum. The utilization indicators for music exceeds 1.00 in all districts, measuring as high as 1.87 in the Small Poor district. Again, a value of 1.87 suggests that the supply of teacher resource is 187% larger than the supply of student resources to the curricular area in question. Another area of the curriculum where the teacher resource share exceeds that of the student resource is foreign language.

Table 26
Instructional Personnel Costs Per Pupil by Program Area in Percent/
Percentage of Total Students Enrolled in Program Area

Program Area	Small Poor	Large Poor School A	Large Poor School B	Large Wealthy School A	Large Wealthy School B	Small Wealthy
English	0.86	1.11	1.21	1.00	0.93	0.83
Soc. Studies	0.83	0.91	0.92	0.80	0.76	0.73
Math	0.65	1.15	1.30	1.20	1.08	1.11
Science	0.95	1.47	1.50	1.00	1.00	1.73
Language	1.32	1.06	1.24	1.25	1.11	1.06
Business	0.74	0.79	0.83	1.12	1.00	0.84
Health	0.57	0.43	0.55	0.29	0.33	0.50
Physical Ed.	0.28	0.38	0.31	0.75	0.82	0.42
Art	1.02	1.08	1.39	1.12	0.88	0.64
Music	1.87	1.60	1.32	1.33	1.67	1.01
Driver Ed.		1.09	0.64			
Special Ed.	7.68	4.19	2.27	6.00	7.00	4.05

The fact that some teacher resource shares are larger than the corresponding student resource share suggests that there will be balancing subject areas were the

opposite will be true. Our findings indicate that these balancing areas occur in English, Social Studies, Art, Physical Education, and Health.

While we have distinguished sharply between the disposition and utilization aspects of the resource allocation process, it is clear that these two types of phenomena can be closely linked. Students' willingness (both real and perceived) to utilize resources can have strong effects on disposition decisions. Similarly, students' responses are likely to be sensitive to the types of resources that are made available. It would be interesting to explore, for example, whether staffing patterns are structured to provide student's with equal access to curricular opportunities. While district fiscal reports provide insight into the distribution of resources across expenditure categories across districts, limits inherent in the use of district financial reporting documents prohibit more informative analysis of resource allocation patterns. Indeed, district level reports provide limited insight into the internal decision making processes that produce any given distribution of resources.

III. The Resource Allocation Process in Education

There are a variety of staffing decisions that need to be made within schooling systems. These decisions include, but are not limited to: a) determining staffing needs;[28] b) selecting candidates from a pool of applicants; and c) allocating specific staff members to particular subjects (e.g., earth science vs. physics) and course levels (e.g., advanced vs. remedial). A number of different actors participate in this decision-making process: school board members, district level administrators, building principals, guidance counselors, department chairpersons, teachers, parents, and students. The building principal, however, has a very influential role as he/she coordinates most of the staffing allocation process, including the development of personnel recommendations and the hiring and assignment of new staff members. District level administrators will modify and refer principal recommendations to the school board for approval.

Each of the principals interviewed solicit the input of staff members in the decision making process.[29] Guidance counselors provide principals with enrollment projections based on student course selections. On the secondary level, department chairpersons or coordinators will inform principals of desired assignments within particular subject areas and grade levels. Individual teachers may also consult with the principal to express desired schedules and subject area assignments. Students and parents can also play a very significant role in the process as there is some degree of freedom in selecting programs of study and particular subjects. Demand for courses is, to a large extent, a function of the kinds of choices that parents and students make about schooling.

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[28] A series of decisions, of course, contribute to the determination of staffing needs. Decisions regarding appropriate class size and overall pupil load in particular subject areas, for example, will affect specific staffing needs.

[29] See Chapter 3 for a detailed description of the methodology and sampling issues.

Factors in the Staffing Allocation Process

Interviews with district and school level administrators and classroom teachers revealed that several factors are considered when determining staffing needs within the four districts and ten schools within the sample.[30] Each of the following factors will be discussed in turn:

1. State guidelines
2. Enrollment projections and student needs and wants
3. Collective bargaining agreements
4. Program initiatives and student performance
5. Staff expectations
6. Facilities and scheduling constraints

State Guidelines

Local education agencies are required to follow state guidelines for curriculum offerings, graduation requirements, provision of special education services, teacher certification, etc. These guidelines can play an important role in the staffing allocation process at the local level, although the degree of impact is variable across different types of local education agencies. The principal of a large, wealthy, suburban high school, for example, downplayed the role of state guidelines in her community:

> ...to be frank, they (state guidelines) don't have much of an impact on us here. We are a fairly traditional school in a fairly traditional community. In some ways, the State requirements aren't rigid enough for us. We don't have much trouble meeting minimum standards.

Some administrators, however, expressed frustration that these guidelines and requirements fail to take into account fiscal and practical constraints within schools. In particular, administrators in the two smaller districts reported difficulty in allocating existing staff to meet state guidelines. As a result, these smaller districts find themselves in a position of trying to fill several diverse, part-time needs.

These smaller districts, for example, rely heavily on staff who are dual certified and actively recruit teachers who are qualified to teach multiple subjects. A junior/senior high school principal in a small, poor, rural district commented on this issue:

> ...in a small school like this, we have to get creative. We just hired a teacher to do three sections of English, a section of social studies, and a computer science section. Dual certification is the best bargain I can buy. English and social studies in particular. You give me a good teacher who can do both, I want to sign them

[30] The ten schools comprised of four elementary schools (K-6), two middle schools (7-8), two high schools (9-12) and two combination junior/senior high schools (7-8, 9-12).

up. Those areas of the curriculum have the greatest ripple effect in my staffing because they are two core subject areas with remediation attached to them.

Smaller districts also seek candidates who are multiply certified within the science and mathematics area of the curriculum as well as in foreign language. This selection criterion does not appear to be a significant factor in the larger districts.

Occasionally, districts will have to assign a teacher outside his or her area of certification in order to meet staffing demands. Administrators will seek to fill spot courses with existing staff members. Typically, the spot assignment will be a "lower level" course so that the level of academic preparation required on the part of the teacher is minimized. No mention was made of efforts to provide additional resources in the form of training or assistance to those teachers assigned to courses outside their area of expertise.

Administrators expressed some frustration with the State regarding the long, drawn out process required to justify an out-of-certification-area assignment. The alternative is to hire part-time people, which administrators try to avoid because of the expense of paying for fringe benefits for these employees.

Enrollment Projections and Student Needs and Wants

In each of the sites, enrollment projections and student needs and wants drive a good deal of the staffing decision making process. District level and school level administrators talk about balancing out "needs" and "wants" in the staffing allocation process. A "need" is a course or subject area that is required for graduation or for a particular program of study. Students requiring special services or modified instructional programs also dictate "needs" within schooling systems. A "want" may be a new program initiative, an elective course, or a student demand for a particular type of course offering.

A principal from a small, suburban, wealthy high school commented on the enrollment increases coupled with an increase in the demand for elective courses within the district:

> ...student demands drive a lot of our allocation decisions. We are experiencing about a 5% enrollment increase and the students are asking for a great deal more electives. They want two or three years of electives rather than just one. We are having trouble keeping up with this demand.

Administrators are faced with the task of balancing student needs and wants with broader instructional goals. Complicating this balance is the goal of being efficient and fiscally responsible. A building principal in the small, poor district commented on the difficulty in achieving this balance:

> ...sometimes I get stuck. If I get a kid who is going for a business track and needs a class to graduate, even if there are only three kids in there, I've got to offer it. I

only have 18 kids in the entire business program yet I have over 30 kids in other classes.

Collective Bargaining Agreements

When making staffing allocation decisions, these needs and wants of students must be considered in concert with workplace parameters stipulated in teachers' contracts. These collective bargaining agreements between the school district and the teachers' union typically specify the number of classes a teacher can be assigned, class size targets, overall pupil load limits, and number of supervisory and preparation periods allotted to each teacher. In each of the four sites, for example, middle school and secondary school teachers are generally not assigned to more than five sections of classes. If teachers voluntarily take on a sixth section, they are normally relieved of any supervisory duty (study halls, cafeteria duty, etc.). In each of the sample districts, no additional salary is provided to teachers who take on a sixth class.

Table 27 outlines the class size and pupil load guidelines specified in the most recent collective bargaining agreement from each of the four sites in the sample.[31] The smallest class size guidelines are found at the elementary level (particularly the early childhood years) and in remedial offerings. The highest class size target is found for regular offerings at the secondary school level in the large, poor district.

Table 27
Contractual Agreements Regarding Class Size and Pupil Load
by District Type

Type of Guideline and Grade Level	Large Wealthy	Large Poor	Small Wealthy	Small Poor
Class Size				
Kindergarten	26	26	27	27
1st through 3rd	26	30	27	27
4th through 6th	28	30	30	27
7th through 12th	29	35	30	none
Remedial courses	17	15	none	none
Overall Pupil Load	114*	none	125**	none

*English only
**except physical education teachers

The language contained within collective bargaining agreements is intentionally vague in order to permit some degree of flexibility with regard to staffing allocations.

[31] It should be noted that past collective bargaining agreements (as far back as 1983) from each of the sites were also reviewed. The present class size and pupil load guidelines, depicted here, do not differ from previous agreements reached in the past.

Phrases such as "every effort shall be made," "whenever possible," and "when physical facilities permit" precede class size targets and overall pupil loads. In addition, interviews revealed that the level of enforcement regarding these contractual guidelines varies from site to site. The class size and pupil load guidelines outlined above, as well as numbers of sections assigned to teachers, are more strictly adhered to in the larger districts. Administrators and teachers in the large, poor district, concurred that if a singleton class exceeded the maximum class size by just one student, an additional section would have to be added or an aid would have to be provided. This also demonstrates the union strength within this particular district.

In contrast, the staffing allocation guidelines within the two small districts are treated as targets rather than requirements. Teachers within the smaller districts are also asked to teach additional sections more frequently than their counterparts in larger districts. One administrator in the small, poor district explained this need for flexibility:

> we can't have anything in the contract which stipulates numbers. If we did that at a small school like this, we would be putting the gun to our heads. We have a mythical figure that we operate on... I also have to get creative with my staff. I can bargain with them. If I need an additional section, I can trade some supervisory duties with a teacher.

Just as there are "mythical" figures for maximum class sizes and pupil loads, there are also unwritten expectations regarding minimum class sizes within the districts in the sample. Unless a course is a part of a required sequence, a special education course, or an advanced placement course, administrators will look to drop an offering if the enrollment is less than fifteen students. This figure drops to around ten students in the two small districts.

Program Initiatives and Student Performance

Program initiatives, usually generated by building principals or site-based management teams, are also considered when making staffing allocation decisions. Central administrators and building principals did report on specific program initiatives they would like to see developed within their schools. These initiatives tend to revolve around those programs which would meet the interests of school board members and taxpayers.

Two of the districts, for example, are developing new initiatives to offer more advanced courses which offer college-level credit. Administrators claimed that these types of initiatives are particularly important when making presentations at budget hearings as they demonstrate the tangible financial rewards (e.g., college tuition savings) associated with additional school spending. These types of courses, the administrators argued, can be a genuine incentive for students to take a rigorous curriculum. An administrator in a small, poor, rural district described the rationale:

> ...I'd like to see our district offer more AP (advanced placement) and college credit courses. Then our taxpayers would get a better bang for their buck. I can demonstrate to them that their tax increases are now paying a bit for college. "Don't tell me I can't have the money for AP--look at the money I will save you later." It also gives me bargaining power with the kids. "Look, you can lighten your load in that first year of college so you don't get burned by calculus or statistics or whatever."

Before expansion of existing programs takes place, efforts are made to re-allocate staff from outdated or ineffective programs. A few administrators also reported that student performance, as measured by achievement test scores, are also considered when determining which programs need to be added, adjusted, or altered. It should be noted, however that these student outcomes do not appear to be a primary driver of resource allocation decisions. One building principal commented on the limited role of student performance in the process:

> ...student outcomes do not play as big a role as other considerations. We do needs assessments but adding and deleting programs is again a function of the numbers. Things like class size, student course selections, and the teachers' contract drive the decisions. As a principal, I am frustrated that I cannot address the needs of the individual student because other practical constraints must be considered first.

Given the outcome-driven orientation of recent reform efforts within the State, it is noteworthy that local practitioners are finding it difficult to focus on student performance when making resource allocation decisions.

Staff Expectations

Personnel within schooling systems have expectations about the configuration of their work schedule and assignments. These staff expectations influence staffing decisions within schooling systems. Principals, for example, attempt to balance out the sometimes competing interests of staff when making teacher assignments. Teachers, for example, maintain that they should be assigned to courses in which they have had experience, training and interest. Some teachers also compete for advanced and Regents level courses and seek to avoid a load with more than one or two lower level courses. Course preferences are typically funneled through the department chairperson/coordinator to the principal who makes the final decisions.

More often than not, teacher seniority is the primary driver of these kinds of allocation decisions. In each of the sample districts, seniority plays a significant role in determining how courses will be distributed. Typically, beginning teachers are assigned more lower level classes than their veteran colleagues. An English teacher from a small, poor, rural district commented on the role of seniority in the process:

> For the majority of my career, I ended up teaching what was leftover because I was low man on the totem pole. It wasn't until older teachers retired and their courses were open, I was able to move into a little more of my own choice. It's never been sort of "what's your best areas or what is your strength. It's always been a past practice and seniority kind of thing.

A veteran history teacher from a large, wealthy, suburban district recalled her frustration earlier in her career regarding the seniority issue:

> ...for the first three years, I did not have a single Regents level history course. I taught all the non-regents classes. I found it real frustrating for those years. There was no sharing and I simply wasn't able to do with the non-regents kids the things I wanted to teach.

Veteran teachers are rarely asked to teach a course outside of his or her area of certification, whereas this is a fairly common occurrence for novice teachers, particularly in the smaller districts. In addition, younger teachers will often be shared between school buildings and are required to travel for part of the school day. While these conditions contribute to the frustration of beginning teachers, these newcomers are typically untenured and are willing to take on difficult assignments.

Facilities and Scheduling Constraints

Facilities and building constraints also drive human resource allocation decisions within schooling systems. Buildings and classrooms will occasionally exceed maximum capacity and additional sections of courses need to be offered, sometimes in a different building. A high school principal in a small, wealthy suburb commented on the recent facilities constraints in his school:

> Our facilities do max out...Last year, for example, we had to split our band because we had 154 students. It became physically impossible to put them all on the stage. We added another course right there. We had to add sections of art and now we are maxed out. We couldn't offer any more if we wanted to...we have no art space left.

As discussed previously, teachers are sometimes assigned to multiple buildings and must travel from assignment to assignment. This has a ripple effect on the allocation of other staff as travel time and different schedules across schools must be taken into consideration. Administrators commented on the difficulties associated with supervising traveling faculty and also reported higher turnover rates among teachers assigned to multiple buildings. In addition to the problems associated with supervising these teachers, administrators suggested that the high turnover rates may be due to teachers' lacking a sense of ownership of the multiple schools in which they teach.

The above review of the variety of factors that influence staffing decisions demonstrates the need to move beyond State collected data in order to understand the resource allocation process within schooling systems. In the next section, we report qualitative findings regarding the local response to State initiated reform.

State Initiated Reform: The Practitioner's Perspective.

Administrators and veteran secondary school teachers were asked direct questions about the impact of State initiated reform on their work within schooling systems. We solicited their opinions and assessments of both the Regents Action Plan and the New Compact for Learning. Specifically, we asked administrators and veteran teachers to comment on four broad and overlapping categories of reform, all of which have implications for the resource allocation process: 1) content emphases; 2) standards and expectations for students; 3) instructional time; and 4) standards and expectations for teachers.

Content Emphases

This area of reform involves the standardization of a "core curriculum" for all students. The Regents Action Plan, for example, emphasized increasing graduation requirements in the five core academic subjects: English, mathematics, science, social studies and foreign language.

Each of the districts in the sample did increase graduation requirements in order to meet the new Regents guidelines. Administrators and teachers commented, however, that these increases did not have much effect on their program offerings because Regents students had typically met those requirements already.

One exception is the foreign language area of the curriculum which experienced substantial changes due to the Regents Action Plan. The Action Plan and subsequent legislation increased Regents graduation requirements in foreign language by three units and required that all students pass a proficiency exam in a language other than English. Interview data with administrators and teachers are consistent with the empirical results reported earlier, which indicated substantial increases in intensity and use of resources within foreign languages. Recall that foreign language was the only one of the five core subjects to experience an increase in overall pupil load per FTE teacher.

Teachers of foreign language remarked that these changes have had a substantial impact on the allocation and use of resources within this area of the curriculum. A foreign language department chair from a large, poor, urban high school commented on these changes:

> Foreign language has changed a lot in the last eleven years because languages have become mandated by the State. Whereas before all students who took foreign language were the ones who really wanted to take it, now you are teaching

everybody. Now we're in the realm of "I'm here because I have to be here." This makes it a lot more challenging...No matter what you do, you end up teaching to the middle and the middle is not the same as it used to be.

Standards and Expectations for Students

In addition to increasing the graduation requirements described above, this category of reform calls for additional homework and additional assessments of student work. Also included in this category of reform is the effort to improve the academic rigor of course content and instructional materials.

Teachers were particularly concerned about this area of reform and reported that standards and expectations of students have actually declined over time. Each of the fifteen teachers interviewed commented on their struggle to maintain rigorous requirements within their courses. Teachers suggested that students' general attitude toward school have deteriorated and that motivating students to learn has become increasingly more difficult. A foreign language teacher from a small, poor, rural school commented on this change in students' views of school:

> ...attitudes toward professionals, attitudes toward elders, attitudes toward school have all deteriorated. It seems that schools are a microcosm of society and society is deteriorating...We feel the effects of that.

Teachers claim that this change in attitude has required them to alter their instructional strategies in order to motivate their students to complete course work.

> ...you have to make learning fun, you have to entertain, you have to bargain, bribe, cajole... Now it's like "let's make a deal." I'm not much of a deal maker, but my deal is, "if you work with me, I'll work with you. We will have a good time, but there is also a reason for you to be here."

These negotiations between teachers and students extend into homework assignments and course requirements. Teachers are finding it increasingly more difficult to receive completed homework assignments. As a result, some teachers are assigning less homework and less demanding course projects. An English teacher in a large, poor, urban district commented on the adjustments made in Regents offerings:

> I'm finding more and more difficulty getting any homework. We're almost getting to the point where even asking them to do any homework is a personal favor. I don't do term papers any more in my Regents classes. I used to do them...I would automatically assign them and they were done. It got to be such a struggle to get them done and I just don't want to give up the time that I need to focus on the kinds of writing they have to do for the (Regents) exam.

Another English teacher from a small, poor, rural school commented on how standards and expectations have deteriorated with regard to specific content in the curriculum:

> I can't teach the same level of literature because students can't read. The Regents students are just as bad as the Non-Regents kids. I used to teach Charles Dickens. Forget it, I can't teach Charles Dickens. Right now I am teaching Edgar Allan Poe's The Fall of the House of Usher. I have to read it to them and go over it with them because they can't read it on their own...it's too difficult for them.

A social studies teacher in a large, wealthy, suburban high school explained that less stringent grading practices are a reflection of the decrease in standards within the classroom:

> The biggest difference I see in the students is an overall decrease in standards of achievement and what I can expect of them...For example, I found that I continued to correct all the spelling and grammatical errors in research papers like I did 13 or 14 years ago, their grades would be too low...I mean, you can't give everybody a C. I have tried my own experiments with being a hard grader and giving low grades hoping that they will get made enough or motivated enough, but it really doesn't work for many kids.

In sum, these comments by teachers depict a system which has not been able to increase standards and expectations of students within classrooms.

Instructional Time

This category of reform focuses on maximizing the amount of learning opportunities for students through lengthening the school day, lengthening the school year and improving school schedules. In addition to the interview data, collective bargaining agreements and school schedules in each of the four sites were collected to assess any changes in instructional time since 1983.

In each of the four districts in the sample, the length of the school day and year have remained unchanged since 1983. In each of the four districts, schools operate for 180 instructional days and for approximately 7.5 hours per day.[32] While the length of the school day and year have remained essentially unchanged, schools within the sample have experimented with different building level schedules to maximize learning time. One district, for example, eliminated the homeroom period in secondary schools in order to add instructional minutes elsewhere. Each of the districts have experimented with rotating schedules so that students are not studying the same subject the same time every day.

[32] The school calendar year typically extends to 187 days with three days devoted to Superintendent's Days and four days for snow emergencies.

Teachers expressed frustration that there was no time built into the school day to meet with colleagues for planning and curriculum development purposes. In addition, several teachers indicated that 40 to 50 minute periods limited their instructional strategies. An English teacher at a large, wealthy, suburban high school commented on the need for flexibility in scheduling:

> I would like to have more time to interact with colleagues. I don't see them very much. Part of the problem is our lock-step schedule...I would like to have a way that the schedule could be manipulated that I can get a flex period, or a double period, or a lab period.

Standards and Expectations for Teachers

This category of reform encompasses issues of teacher professionalism and workplace satisfaction. Recommendations in this category of reform include enhancing professional development opportunities, providing teachers a voice in decision-making, encouraging innovation in the classroom through the use of grants and incentives, and reducing teacher workloads. In addition to reducing overall pupil loads, efforts in this area include minimizing disciplinary and administrative burdens for teachers, so that instructional time can be maximized.

Contractually, standards and expectations for secondary school teachers have remained unchanged since 1983 in each of the four districts in the sample. While class size targets and overall pupil load targets vary across sites, these targets have not changed within each of the districts since 1983.[33] Supervisory duties and professional development expectations have also remained unchanged over the period.

When asked about changes in the standards and expectations in the professional lives of teachers, interviewees commented primarily on the shared decision-making component of the New Compact for Learning. Because the New Compact is a relatively new State reform initiative (1991), it is difficult to determine its impact on local districts. Interviewees, however, commented at length about their own assessments of the initiative and provided mixed reviews regarding its implementation and potential longer term impact. In particular, practitioners commented on the expectation that local districts develop and implement a shared decision-making model.

Many of the educators interviewed expressed frustration with the shared decision-making component of the New Compact. Some administrators and teachers are frustrated that the process takes too long and that struggling to build consensus is more trouble than it is worth. An administrator from a small, wealthy district commented sarcastically on this frustration:

[33] See Table 2 for a summary of class size and overall pupil loads in each of the sample districts.

> I think giving decision-making capabilities to people who don't know what they are doing, haven't been trained in this area, and have very little accountability for the decisions is a *wonderful* idea (emphasis added).

The same administrator discussed the amount of time required by shared decision-making:

> It (shared decision-making) takes a lot of my time because it is negotiations, not just time at the table. I spend a lot of time putting together a game plan to be persuasive about what I think the best position is. I purposefully try to stay away from chairing committees...

A foreign language teacher from a large, poor, urban school also commented on the delays sometimes associated with shared decision-making:

> I know there is a need for site-based management and that everyone should have a voice, but I'll be very candid...sometimes you just feel somebody needs to make a decision... it takes so long to make a decision that by the time you make it it's no longer relevant.

Others were concerned that the shared decision-making wasn't being taken seriously in their district and that administrators ended up making the final decisions anyway. An English teacher from a poor, small rural district commented on this concern:

> I feel that administrators are unwilling to give up any of their power in the decision-making. That makes things difficult and makes me reluctant to serve on committees.

Some teachers felt that the reform had very little impact on their classroom.

> They (the reforms) haven't impacted my classroom at all. I'm very cynical, but all of these things come out and it goes for a couple of years and it doesn't work so we try something else. Teaching occurs when I shut my door and I'm with my students and nobody can legislate that.

In one district, the struggle to implement a shared decision-making plan has been complicated by protracted contract negotiations between the school board and the teachers' union. Teachers in this district have been operating without a contract for more than two years and are reluctant to take on additional work on committees and site-based management teams.

Despite these criticisms, teachers and administrators did share some success stories regarding recent efforts to embrace the reform. Each of the teachers interviewed in the small, poor, rural district volunteered information about the successful design and implementation of a K-12 writing curriculum. Teachers felt the effort was successful

because it was teacher generated, was inter-disciplinary, and required that participation of each level and subject area of the district.

We took the initiative and we wanted to get involved. We would hold gatherings where teachers from different grade levels and subject areas would share the kinds of writing activities they were doing in math, science, whatever. I thought it showed a lot of professional growth on everyone's part.

IV. Summary of Key Findings

Key Findings Regarding the Micro-Level Resource Allocation Analysis

- The Small Poor and Large Poor districts spend significantly less on Math than their wealthier counterparts. Similar spending patterns emerge between poor and wealthy districts in the English, Science, and Social Studies programs areas, although the disparities are much less pronounced.

- Across all schools, either foreign language or science have the highest instructional personnel costs per pupil of the core program areas. Other high spending program areas are music and special education. In contrast, physical education and health consistently spend the lowest amount per pupil on instructional personnel costs.

- When program instructional personnel costs are expressed as a percent of total instructional personnel costs, the resources devoted to specific areas of the curriculum are quite similar across schools. This is particularly true of schools within the same district. This suggests that, while the size of the district's pool of resources may vary among districts, in general, districts assign similar priorities to program types when dividing this pool.

- The percentage of total instructional personnel costs devoted to non-instructional duties range from two to 12 percent. Smaller districts require their teachers to devote significantly more of their time to the performance of non-instructional duties than their larger counterparts.

- On average, teachers are allocated between 2-3 preparations periods per 8 period day. These figures do not include contracted time for lunch.

- With the exception of Special Education, the highest utilization indices occur within the music area of the curriculum. Another area of the curriculum where the teacher resource share exceeds that of the student resource is foreign language.

Key Findings Regarding the Qualitative Resource Allocation Analysis

- The staffing allocation process is complex and at least six factors are considered when determining staffing needs and priorities within schooling systems: 1) state guidelines;

2) enrollment projections and student needs and wants; 3) collective bargaining agreements; 4) program initiatives and student performance; 5) staff expectations; and 6) facilities and scheduling constraints.

- Student performance, although one of the factors considered, is not a primary driver of resource allocation decisions within the sample school systems.

- School districts, particularly smaller districts, rely heavily on staff who are dually certified and actively recruit teachers who are qualified to teach multiple subjects.

- Teacher seniority plays a significant role in how courses are distributed among the teaching staff. Novice teachers are more likely to be assigned less advanced course offerings and assigned to courses outside their area of expertise and interest.

- Administrators and others expressed the need for more flexibility in the configuration of human resources within the sample school systems.

Key Findings Regarding the Local Response to State Initiated Reform

- *Content Emphases.* Local decision makers find themselves having to balance student needs and wants with State and community goals and interests. Increased student demands for elective and "non-core" courses is coupled with the State and community expectations for advanced and regents level offerings within the core academic subjects. Of the core subject areas, foreign language experienced the most substantial changes due to the increased graduation requirements associated with the Regents Action Plan.

- *Standards and Expectations for Students.* Veteran teachers reported that standards and expectations of students have actually declined over time. Several veteran teachers reported that they assign less homework and coursework and also grade students less stringently. Teachers argue that it has become increasingly more difficult to motivate students and that they have been forced to lower their standards within courses.

- *Instructional Time* The length of the school day and school year within each of the districts in the sample has remained unchanged since 1983. While experimentation with daily schedules has taken place (e.g., rotating schedules) in each of the districts, interviewees expressed the need for more flexibility to increase the amount of time available for collaboration with colleagues and to maximize learning time for students.

- *Standards and Expectations for Teachers* Contractually, standards and expectations for secondary school teachers have remained unchanged since 1983 in each of the four districts in the sample. Districts varied in their ability to successfully involve teachers in a decentralized decision-making plan as recommended in the New Compact for Learning.

Chapter 6
Implications for Policy and Future Research

These findings represent early and still quite incomplete attempts to characterize the allocation of resources at micro levels of educational systems. For example, it must be noted that the empirical findings presented herein are limited to analyses of professional staff only. Local education agencies purchase many hired resources which are not considered here (custodial workers, cafeteria workers, clerical staff, etc.) Similarly, these analyses do not consider allocations of capital resources (physical plant, supplies, texts, computers, etc.). The omission of these important pools of resources limits the ability to gain a comprehensive understanding of resource allocation phenomenon.

Despite this limitation, this type of resource allocation study has much to offer educational theory and practice and can make several contributions to the field. First, contributions to new conceptions of educational equity can be made through the analysis of more refined indicators of instructional opportunities for students. Second, this type of study can inform current policy debates regarding education reform, particularly those aspects of reform which involve the reconfiguration of teaching and other human resources. Indeed, the findings as they stand invite many important questions that are rich in implications for public policy. The following represent just a few possibilities:

> Why does "administration" represent 13.4 percent of school districts' professional staff, and is it appropriate for special education administration to constitute more than 50 percent of the staffing resources devoted to administration?
>
> Why does English receive close to twice the percentage share of teacher resources than does music and art or physical education and health?
>
> Why does social studies receive a smaller share of the teacher resource base than does English or mathematics?
>
> Why is the share of teacher resources smaller for science than for mathematics?
>
> Why do the resources devoted to remedial offerings in mathematics and English exceed those devoted to advanced courses? And why is the reverse true in other areas of the academic curriculum?
>
> Why is the discrepancy in the allocation of resources between "regular" and special types of offerings (i.e., advanced and remedial) as large as it is and should it be smaller/larger?

Why has the investment in science and mathematics increased so little even in the face of significant efforts by the State to stimulate investment of this sort?

Why are the staffing intensity levels so much lower in the Big 5 City districts than they are elsewhere in the State?

How appropriate are the investments in teacher preparation and duty periods and why do these allocations vary so widely across subject areas?

With the heavy emphasis placed on mathematics and science education in New York's reform agenda, why have the teacher and student allocations to these areas of the curriculum remained steady?

What are the conditions at the local level which give rise to these findings and what are the local constraints which might impede school districts from responding to State initiated reform?

What is the justification for discrepancies between the share of teacher and student time resources that are devoted to particular subject areas and to what degree are these conscious efforts on the part of school officials to assign high and low priorities to specific areas of the curriculum?

Questions of this sort are much easier to ask than to answer, but having the New York research results in hand provides useful base-line data and permits the formulation of the questions. The results bear on important policy debates over the proper distribution of resources between elementary schools, secondary schools, and administrative uses. They also provide new insights into the internal allocation of resources across subject areas within secondary schools. The comparisons between urban and other kinds of districts are relevant to important equity arguments currently being made in New York and elsewhere, and the breakdowns according to district structural characteristics reveal some surprising results that can throw light on the underlying forces that give rise to resource allocation behaviors. For example, it is quite intriguing to learn that staffing levels within core academic subject areas at the secondary level are relatively flat across wide ranges of school district spending levels.

The comparisons over time make it possible to assess the impact of state policies on local district practice. The period we studied included an increase in emphasis on secondary mathematics and science, but the findings suggest relatively modest changes in how teacher and student time resources were allocated to these subjects. It is particularly important to view the allocation of teacher and other school resources in the context of parallel allocations of student time and effort. This research takes a step in this direction

by dealing explicitly with student time. We did not deal with the allocation of actual effort, but further work along these lines would be very desirable.

The case study analyses permitted us to reach even more deeply into school and school district resource allocation practices. The micro-level resource allocation model gave us the opportunity quantify two uses of teacher resources which have received virtually no attention in the literature: the time teachers spend on preparation and the time teachers devote to non-instructional duties. The process study revealed that there are local constraints which preclude districts from allocating and utilizing resources in creative ways.

While our work in New York using State collected data demonstrates progress in the area of micro-level resource allocation, there are numerous opportunities for researchers in educational administration to extend these analyses. A logical extension of this work is to trace the flow of human resources to even deeper points within the educational system. We do not explicitly address, for example, the allocation of actual student effort in the classes in which they are enrolled. Another important extension of this work involves gaining a deeper understanding of how these resource allocation patterns relate to measures of student performance. While it is important to understand how resources are allocated and used for equity purposes, concerns about the efficient use of these resources can only be addressed through a more thorough analysis of how these resources are translated into student outcomes. Fortunately, these research programs are all complementary, and we hope this monograph stimulates further interest in this kind of work.

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APPENDIX 1

Expense Categories by Object

TOTAL SALARIES: All salaries.

CERTIFICATED SALARIES: All certificated salaries.

TEACHER SALARIES: All teaching salaries.

NON-ADMINISTRATIVE CERTIFICATED: All non-administrative certificated salaries (other than teaching). Includes health services, psychological services, guidance services, social work services, pupil personnel services, school psychologists, guidance counselors, curriculum development, inservice training and research and evaluation.

SCHOOL SITE ADMINISTRATION: All school site administrator salaries. Includes supervision for regular and special schools and certificated attendance personnel.

CENTRAL ADMINISTRATION: All central administration salaries. Includes board of education, district clerk, chief school administration, business administration, auditing, records management, personnel administration and public information services.

CLASSIFIED SALARIES: All non-certificated salaries.

BENEFITS: All employee benefits. Includes state retirement, teachers retirement, social security, workers' compensation, life insurance, unemployment insurance, disability insurance, hospital, medical and dental insurance, union welfare benefits, etc. The data does not permit making a clear distinction between certificated employee benefits and classified employee benefits.

TOTAL SUPPLIES: All texts, instructional and non-instructional materials and supplies.

INSTRUCTIONAL MATERIALS: All material and supplies expenditures for instructional purposes (other than texts).

NON-INSTRUCTIONAL MATERIALS: All materials and supplies expenditures for non-instructional purposes.

EQUIPMENT: All equipment expenditures.

BOCES: All Board of Cooperative Educational Services (BOCES) expenditures.

CONTRACTUAL AND OTHER: All expenditures listed explicitly as "contractual and other" and expenditures for pupil transportation, food services and debt service.

Expense Categories by Function

INSTRUCTION: Total teaching expenditures in both regular and special schools.

INSTRUCTIONAL SUPPORT: Total instructional support expenditures in both regular and special schools. Includes curriculum development and supervision, guidance services, inservice training, school library and audiovisual, computer services, educational television.

ADMINISTRATION: Total administration expenditures.

SCHOOL SITE ADMINISTRATION: Total expenditures for supervision of both regular and special schools.

CENTRAL ADMINISTRATION: Total expenditures for board of education, central administration, finance, central support staff, central printing and mailing, central data processing, census and special central items.

PUPIL SERVICES: Total expenditures for pupil services. Includes health services, psychological services, social work services, pupil personnel services, co-curricular and extra-curricular student activities, youth and civic activities, community services.

MAINTENANCE AND OPERATIONS: Total expenditures for plant operation, general maintenance and central storeroom.

TRANSPORTATION: Total expenditures for pupil transportation.

FOOD SERVICES: Total expenditures for food services.

DEBT SERVICE: Total expenditures for principal and interest payments from the general and debt service funds.

OTHER: Total expenditures for undistributed expenditures. Some employee benefits, for example, could not be accurately distributed across the functional categories above.

Table 1A
Origination of Revenues by Spending Level

Revenue Origin	Q1 n=87 %	Q2 n=147 %	Q3 n=168 %	Q4 n=118 %	Q5 n=128 %	Total n=648 %	Big4 n=4 %	NYC n=1 %
Local Revenues	34.9	45.2	46.8	61.1	79.8	55.7	35.8	48.2
Property Tax	31.1	39.5	40.7	55.4	73	49.9	27.0	45.9
Other Local Tax	.7	2.0	2.3	1.8	1.0	1.7	5.9	.0
User Fees and Service Charges	.6	.7	.7	.9	2.0	1.0	.4	.0
Use of Money and Property	1.1	1.4	1.4	1.5	1.7	1.5	.2	.1
Special Aid Fund (local)	.1	.3	.3	.5	.6	.4	.8	1.4
Miscellaneous	1.4	1.3	1.4	1.0	1.0	1.2	1.5	.8
State Aid	62.7	52.4	50.5	36.5	18.8	42.1	58.1	43.9
Federal Aid	2.4	2.4	2.8	2.3	1.4	2.2	6.2	7.8
Total Revenue (in $millions)	18.2	26.5	31.5	53.7	44.2	37.0	288.3	6788.6

Note: Quintile distributions are based on the number of pupils so that approximately one-fifth of the students are in each quintile. First quintile is lowest spending per pupil, fifth quintile is highest. Figures are quintile averages and are weighted by district enrollment.

Table 1B
Origination of Revenues by District Enrollment

	0-500	501-1000	1001-1500	1501-5000	5001-10000	over 10000	Total	Big4	NYC
Revenue Origin	n=66 %	n=102 %	n=145 %	n=271 %	n=58 %	n=6 %	n=648 %	n=4 %	n=1 %
Local Revenues	50.3	43.2	46.7	57.3	60.1	50.7	55.7	35.8	48.2
Property Tax	45.3	38.5	40.9	51.5	54.0	45.5	49.9	27.0	45.9
Other Local Tax	.8	.7	1.3	1.8	1.9	1.6	1.7	5.9	.0
User Fees and Service Charges	1.2	.8	1.6	.9	1.0	.6	1.0	.4	.0
Use of Money and Property	1.3	1.4	1.3	1.5	1.5	1.5	1.5	.2	.1
Special Aid Fund (local)	.3	.3	.2	.3	.6	.7	.4	.8	1.4
Miscellaneous	1.4	1.5	1.4	1.3	1.1	.8	1.2	1.5	.8
State Aid	46.9	53.9	51.2	40.7	37.4	46.8	42.1	58.1	43.9
Federal Aid	2.8	2.9	2.2	2.0	2.4	2.5	2.2	6.2	7.8
Total Revenue (in $millions)	3.4	6.1	9.9	27.0	63.4	102.2	37.0	288.3	6788.6

Note: Figures are weighted by district enrollment.

Table 1C
Origination of Revenues by District Property Wealth

Revenue Origin	Q1 n=194 %	Q2 n=130 %	Q3 n=103 %	Q4 n=92 %	Q5 n=129 %	Total n=648 %	Big4 n=4 %	NYC n=1 %
Local Revenues	29.8	42.9	53.6	68.3	84.9	55.7	35.8	48.2
Property Tax	25.1	36.9	47.7	62.4	78.5	49.9	27.0	45.9
Other Local Tax	1.1	2.0	2.3	1.9	1.0	1.7	5.9	.0
User Fees and Service Charges	.6	.8	.7	1.0	1.9	1.0	.4	.0
Use of Money and Property	1.2	1.3	1.4	1.7	1.8	1.5	.2	.1
Special Aid Fund (local)	.2	.6	.3	.3	.5	.4	.8	1.4
Miscellaneous	1.6	1.3	1.2	1.0	1.2	1.2	1.5	.8
State Aid	66.9	54.3	44.1	30.0	13.9	42.1	58.1	43.9
Federal Aid	3.3	2.7	2.2	1.7	1.2	2.2	6.2	7.8
Total Revenue (in $millions)	20.0	31.0	47.1	45.3	41.0	37.0	288.3	6788.6

Note: District property wealth is selected full value divided by total weighted pupil units (TWPU). Quintile distributions are based on the number of pupils so that approximately one-fifth of the students are in each quintile. First quintile is lowest property wealth per pupil, fifth is highest. Figures are quintile averages and are weighted by district enrollment.

Table 1D
Origination of Revenues by Income Per Pupil

Revenue Origin	Q1 n=238 %	Q2 n=132 %	Q3 n=101 %	Q4 n=78 %	Q5 n=99 %	Total n=648 %	Big4 n=4 %	NYC n=1 %
Local Revenues	31.4	43.4	54.4	66.9	83.6	55.7	35.8	48.2
Property Tax	27.2	38.1	48.5	60.6	76.5	49.9	27.0	45.9
Other Local Tax	.7	1.4	2.0	2.4	1.7	1.7	5.9	.0
User Fees and Service Charges	.6	.8	.8	.9	2.0	1.0	.4	.0
Use of Money and Property	1.2	1.3	1.4	1.7	1.7	1.5	.2	.1
Special Aid Fund (local)	.2	.3	.6	.3	.6	.4	.8	1.4
Miscellaneous	1.5	1.5	1.1	1.0	1.1	1.2	1.5	.8
State Aid	65.4	53.6	43.5	31.4	15.1	42.1	58.1	43.9
Federal Aid	3.1	3.0	2.1	1.7	1.3	2.2	6.2	7.8
Total Revenue (in $millions)	15.1	35.5	39.6	50.1	43.5	37.0	288.3	6788.6

Note: Quintile distributions are based on the number of pupils so that approximately one-fifth of the students are in each quintile. Figures are qiuntile averages and are weighted by district enrollment.

Table 1E
Origination of Resources by Percent of Pupils in Poverty

Revenue Origin	0-10% n=140 %	11-25% n=158 %	26-50% n=294 %	51-75% n=52 %	over 75% n=4 %	Total n=648 %	Big4 n=4 %	NYC n=1 %
Local Revenues	75.4	54.9	44.7	39.3	55.8	55.7	35.8	48.2
Property Tax	69.5	48.8	39.4	32.9	51.3	49.9	27.0	45.9
Other Local Tax	1.6	2.1	1.3	2.4	.3	1.7	5.9	.0
User Fees and Service Charges	1.3	.9	.9	1.0	1.7	1.0	.4	.0
Use of Money and Property	1.8	1.5	1.3	1.1	.8	1.5	.2	.1
Special Aid Fund (local)	.3	.5	.3	.4	.6	.4	.8	1.4
Miscellaneous	.9	1.1	1.5	1.5	1.1	1.2	1.5	.8
State Aid	23.5	43.4	52.4	55.7	40.5	42.1	58.1	43.9
Federal Aid	1.1	1.8	2.8	5.0	3.7	2.2	6.2	7.8
Total Revenue (in $millions)	42.2	38.3	30.4	43.7	42.6	37.0	288.3	6788.6

Note: Percent of pupils in poverty is measured by the percentage of pupils qualifying for free and reduced price lunch (FRPL count). Figures are weighted by district enrollment.

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Table 1F
Origination of Revenues by Percent Minority Pupil

	0-20%	21-40%	41-60%	61-80%	81-100%	Total	Big4	NYC
Revenue Origin	n=582 %	n=40 %	n=12 %	n=7 %	n=7 %	n=648 %	n=4 %	n=1 %
Local Revenues	54.6	60.7	64.3	54.8	59.4	55.7	35.8	48.2
Property Tax	49.0	55.1	55.8	48.1	54.4	49.9	27.0	45.9
Other Local Tax	1.7	1.4	3.0	1.6	.4	1.7	5.9	.0
User Fees and Service Charges	.9	1.2	1.5	1.7	2.0	1.0	.4	.0
Use of Money and Property	1.5	1.2	1.3	1.2	.8	1.5	.2	.1
Special Aid Fund (local)	.3	.5	.8	1.2	.7	.4	.8	1.4
Miscellaneous	1.2	1.3	1.9	1.0	1.1	1.2	1.5	.8
State Aid	43.4	36.1	32.1	42.3	36.7	42.1	58.1	43.9
Federal Aid	2.0	3.1	3.6	3.0	3.9	2.2	6.2	7.8
Total Revenue (in $millions)	33.2	44.1	70.5	71.4	58.3	37.0	288.3	6788.6

Note: More refined measures of percent minority pupils were not available. Figures are weighted by district enrollment.

Table 1G
Origination of Revenues by Performance Level

Revenue Origin	Q1 n=137 %	Q2 n=131 %	Q3 n=115 %	Q4 n=112 %	Q5 n=150 %	Total n=648 %	Big4 n=4 %	NYC n=1 %
Local Revenues	50.8	48.2	55.6	60.3	64.1	55.7	35.8	48.2
Property Tax	44.6	43.0	49.3	55.4	58.0	49.9	27.0	45.9
Other Local Tax	1.9	1.3	2.0	1.2	2.0	1.7	5.9	.0
User Fees and Service Charges	1.1	0.9	1.0	0.7	1.3	1.0	.4	.0
Use of Money and Property	1.2	1.4	1.6	1.6	1.6	1.5	.2	.1
Special Aid Fund (local)	0.5	0.2	0.6	0.3	0.3	.4	.8	1.4
Miscellaneous	1.4	1.4	1.1	1.2	0.9	1.2	1.5	.8
State Aid	46.1	49.4	42.1	38.0	34.4	42.1	58.1	43.9
Federal Aid	3.1	2.4	2.3	1.8	1.5	2.2	6.2	7.8
Total Revenue (in $millions)	42.2	32.1	35.9	40.5	34.2	37.0	288.3	6788.6

Note: Quintile distributions are based on the number of pupils so that approximately one-fifth of the students are in each quintile. Figures are qiuntile averages and are weighted by district enrollment.

Table 2A
Expenditures Per Pupil by Object level
By Spending Level

	Q1 n=87		Q2 n=147		Q3 n=168		Q4 n=118		Q5 n=128		Total n=648		Big 4 n=4		NYC n=1	
Object Category	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%
Total Salaries	3419	56.4	3795	57.3	4100	56.1	5104	58.1	6851	58.9	4788	57.4	4841	58.0	4472	60.4
Certificated Salaries	2934	48.4	3222	48.6	3464	47.4	4259	48.4	5620	48.3	4005	48.2	3995	47.9	3355	45.3
Teacher Salaries	2561	42.2	2798	42.2	3003	41.1	3681	41.9	4770	41.0	3451	41.6	3370	40.5	3050	41.2
Non-Administration	175	2.9	208	3.1	233	3.2	297	3.4	447	3.8	282	3.3	292	3.4	100	1.4
School Site Admin.	141	2.3	155	2.3	164	2.2	221	2.5	311	2.7	204	2.4	279	3.4	198	2.7
Central Admin.	63	1.0	64	1.0	71	1.0	64	.7	97	.8	72	0.9	67	0.8	7	0.1
Classified Salaries	484	8.0	572	8.6	634	8.6	841	9.6	1226	10.5	780	9.2	836	10.0	1111	15.0
Benefits	940	15.5	1043	15.7	1162	15.9	1418	16.1	1971	16.9	1346	16.1	1666	19.2	1224	16.5
Total Supplies	171	2.8	179	2.7	193	2.6	204	2.3	261	2.2	205	2.5	217	2.7	178	2.4
Texts	33	.6	34	.5	38	.5	41	.5	53	.5	40	0.5	63	0.8	38	0.5
Instruction Materials	76	1.2	70	1.1	82	1.1	80	.9	104	.9	83	1.0	101	1.3	79	1.1
Non-Instruction Mat.	62	1.0	75	1.1	73	1.0	83	1.0	104	.9	81	1.0	76	0.8	61	0.8
Equipment	33	.5	35	.5	41	.6	43	.5	63	.5	44	0.5	113	1.3	57	0.8
BOCES	573	9.4	558	8.4	646	8.9	591	6.7	692	6.0	616	7.7	263	2.7	0	0.0
Contractual and Other	932	15.4	1017	15.4	1169	15.9	1427	16.2	1823	15.6	1312	15.7	2223	22.7	1472	19.9
Total Expenditures	6069		6628		7310		8787		11661		8312		9896		7402	

Note: Quintile distributions are based on number of pupils so that approximately one fifth of the students are in each quintile. First quintile is lowest spending per pupil, fifth quintile is highest spending per pupil. Figures are weighted by district enrollment.

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Table 2B
Expenditures Per Pupil by Object level
By District Size

	0 500 66		501- 1000 n= 102		1001- 1500 n= 145		1501- 5000 n= 271		5001- 10,00 n= 58		10, 000+ n =6		Total n=648		Big 4 n=4		NYC n=1	
Object Category	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%
Total Salaries	4295	50.7	4011	51.8	4216	55	4815	57.2	5128	59.6	4979	61.5	4788	57.4	4841	58.0	4472	60.4
Certificated Salaries	3648	43.1	3428	44.3	3580	46.9	4016	47.9	4273	49.8	4147	51.2	4005	48.2	3995	47.9	3355	45.3
Teacher Salaries	3173	37.6	2291	38.7	3091	40.6	3446	41.2	3692	43.1	3597	44.4	3451	41.6	3370	40.5	3050	41.2
Non-Administration	206	2.4	204	2.6	241	3.0	287	3.3	306	3.6	303	3.7	282	3.3	292	3.4	100	1.4
School Site Admin.	89	1.0	127	1.6	156	2.0	212	2.5	231	2.7	209	2.6	204	2.4	279	3.4	198	2.7
Central Admin.	181	2.1	107	1.4	93	1.2	73	.9	55	.6	46	.6	72	0.9	67	0.8	7	0.1
Classified Salaries	644	7.5	582	7.5	635	8.1	797	9.3	850	9.7	820	10.1	780	9.2	836	10.0	1111	15.0
Benefits	1300	15.3	1243	16.0	1225	16.0	1369	16.2	1391	16.1	1288	15.8	1346	16.1	1666	19.2	1224	16.5
Total Supplies	278	3.2	231	3.0	216	2.9	205	2.5	195	2.3	174	2.2	205	2.5	217	2.7	178	2.4
Texts	41	.5	38	.5	37	.5	42	.5	40	.5	36	.4	40	0.5	63	0.8	38	0.5
Instruction Materials	116	1.3	95	1.2	87	1.1	85	1.0	76	.9	73	.9	83	1.0	101	1.3	79	1.1
Non-Instruction Mat.	120	1.4	98	1.3	91	1.2	78	.9	79	1.0	66	.8	81	1.0	76	0.8	61	0.8
Equipment	74	.8	55	.7	46	.6	46	.5	39	.5	26	.3	44	0.5	113	1.3	57	0.8
BOCES	1004	12.3	909	12.1	703	9.7	627	7.7	521	6.2	396	4.8	616	7.7	263	2.7	0	0.0
Contractual and Other	1535	17.7	1285	16.4	1207	15.9	1335	15.9	1323	15.2	1236	15.4	1312	15.7	2223	22.7	1472	19.9
Total Expenditures	8485		7735		7614		8397		8597		8100		8312		9896		7402	

Note: Figures are weighted by district enrollment.

Table 2C
Expenditures Per Pupil by Object level
By District Property Wealth

	Q1 n=194		Q2 n=130		Q3 n=103		Q4 n=92		Q5 n=129		Total n=648		Big 4 n=4		NYC n=1	
Object Category	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%
Total Salaries	3666	54.5	4014	56.7	4524	58.3	5049	58.4	6807	59.2	4788	57.4	4841	58.0	4472	60.4
Certificated Salaries	3119	46.4	3393	48.1	3806	49.1	4221	48.9	5578	48.6	4005	48.2	3995	47.9	3355	45.3
Teacher Salaries	2726	40.6	2938	41.6	3301	42.6	3634	42.1	4727	41.1	3451	41.6	3370	40.5	3050	41.2
Non-Administration	191	2.8	229	3.2	250	3.2	299	3.4	453	3.9	282	3.3	292	3.4	100	1.4
School Site Admin.	137	2.0	169	2.4	192	2.4	227	2.6	302	2.6	204	2.4	279	3.4	198	2.7
Central Admin.	65	1.0	64	.9	67	.9	66	.8	102	.9	72	0.9	67	0.8	7	0.1
Classified Salaries	546	8.0	618	8.6	715	9.2	824	9.5	1224	10.6	780	9.2	836	10.0	1111	15.0
Benefits	1051	15.6	1115	15.7	1255	16.1	1416	16.3	1931	16.7	1346	16.1	1666	19.2	1224	16.5
Total Supplies	182	2.7	183	2.6	183	2.4	214	2.5	265	2.3	205	2.5	217	2.7	178	2.4
Texts	34	.5	38	.5	36	.5	44	.5	50	.4	40	0.5	63	0.8	38	0.5
Instruction Materials	74	1.1	76	1.1	75	1.0	86	1.0	105	.9	83	1.0	101	1.3	79	1.1
Non-Instruction Mat.	73	1.1	69	1.0	71	.9	84	1.0	110	.9	81	1.0	76	0.8	61	0.8
Equipment	39	.6	42	.6	34	.5	37	.4	72	.6	44	0.5	113	1.3	57	0.8
BOCES	746	11.0	593	8.3	552	7.0	584	6.7	610	5.3	616	7.7	263	2.7	0	0.0
Contractual and Other	1060	15.6	1134	16.0	1222	15.7	1345	15.6	1834	15.9	1312	15.7	2223	22.7	1472	19.9
Total Expenditures	6744		7081		7771		8645		11520		8312		9896		7402	

Note: District property wealth is selected full value divided by total weighted pupil units. Distriibutions are based on numbr of pupils so that approximately one fifth of the students are in each quintile. First quintile is lowest property wealth per pupil, fifth is highest. Figures are weighted by district enrollment.

Table 2D
Expenditures Per Pupil by Object level
By District Income Wealth

	Q1 n=238		Q2 n=132		Q3 n=101		Q4 n=78		Q5 n=99		Total n=648		Big 4 n=4		NYC n=1	
Object Category	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%
Total Salaries	3667	53.1	4199	56.6	4531	58.6	5124	59.1	6563	60.0	4788	57.4	4841	58.0	4472	60.4
Certificated Salaries	3123	45.3	3534	47.7	3830	49.6	4279	49.5	5365	48.7	4005	48.2	3995	47.9	3355	45.3
Teacher Salaries	2731	39.6	3070	41.5	3311	42.9	3682	42.6	4544	41.3	3451	41.6	3370	40.5	3050	41.2
Non-Administration	186	2.7	237	3.2	260	3.4	307	3.5	434	3.9	282	3.3	292	3.4	100	1.4
School Site Admin.	132	1.9	171	2.3	196	2.5	230	2.7	299	2.7	204	2.4	279	3.4	198	2.7
Central Admin.	75	1.1	61	.8	68	.9	64	.8	99	.9	72	0.9	67	0.8	7	0.1
Classified Salaries	543	7.8	662	8.8	699	9.0	841	9.6	1192	10.8	780	9.2	836	10.0	1111	15.0
Benefits	1070	15.4	1195	16.1	1240	16.0	1438	16.4	1830	16.5	1346	16.1	1666	19.2	1224	16.5
Total Supplies	193	2.8	193	2.6	181	2.3	212	2.5	250	2.3	205	2.5	217	2.7	178	2.4
Texts	35	.5	39	.5	38	.5	40	.5	50	.5	40	0.5	63	0.8	38	0.5
Instruction Materials	80	1.1	81	1.1	73	1.0	82	1.0	102	.9	83	1.0	101	1.3	79	1.1
Non-Instruction Mat.	78	1.1	73	1.0	69	.9	89	1.0	98	.9	81	1.0	76	0.8	61	0.8
Equipment	42	.6	41	.6	37	.5	37	.4	68	.6	44	0.5	113	1.3	57	0.8
BOCES	814	11.7	607	8.3	555	7.1	361	6.5	553	5.0	616	7.7	263	2.7	0	0.0
Contractual and Other	1136	16.3	1182	15.9	1119	15.4	1310	15.1	1786	16.1	1312	15.7	2223	22.7	1472	19.9
Total Expenditures	6922		7417		7743		8681		11050		8312		9896		7402	

Note: Wealth is income per student. Quintile distributions are based on number of pupils so that approximately one fifth of the students are in each quintile. First quintile is lowest income per pupil, fifth quintile is highest. Figures are weighted by district enrollment.

Table 2E
Expenditures Per Pupil by Object level
By Percent of Pupils in Poverty

	0-10% n=140		11-25% n=158		26-50% n=294		51-75% n=52		+ 75% n=4		Total n=648		Big 4 n=4		NYC n=1	
Object Category	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%
Total Salaries	5764	59.9	4599	57.8	4268	55.5	4318	56.7	5522	52.7	4788	57.4	4841	58.0	4472	60.4
Certificated Salaries	4777	49.8	3887	48.9	3588	46.8	3560	46.9	4502	43.0	4005	48.2	3995	47.9	3355	45.3
Teacher Salaries	4072	42.6	3364	42.4	3118	40.7	3058	40.3	3792	36.2	3451	41.6	3370	40.5	3050	41.2
Non-Administration	371	3.8	266	3.3	231	3.0	257	3.4	313	3.0	282	3.3	292	3.4	100	1.4
School Site Admin.	256	2.7	191	2.4	175	2.2	192	2.5	329	3.2	204	2.4	279	3.4	198	2.7
Central Admin.	82	.8	68	.9	69	.9	72	.9	69	.7	72	0.9	67	0.8	7	0.1
Classified Salaries	984	10.1	709	8.8	678	8.6	753	9.8	1018	9.7	780	9.2	836	10.0	1111	15.0
Benefits	1590	16.4	1289	16.2	1237	16.0	1153	15.1	1694	16.2	1346	16.1	1666	19.2	1224	16.5
Total Supplies	227	2.4	186	2.4	199	2.6	218	2.9	230	2.2	205	2.5	217	2.7	178	2.4
Texts	45	.5	37	.5	39	.5	43	.6	63	.6	40	0.5	63	0.8	38	0.5
Instruction Materials	92	1.0	75	1.0	80	1.1	94	1.2	94	.9	83	1.0	101	1.3	79	1.1
Non-Instruction Mat.	90	.9	74	1.0	80	1.1	82	1.1	73	.7	81	1.0	76	0.8	61	0.8
Equipment	50	.5	40	.5	42	.6	50	.6	52	.5	44	0.5	113	1.3	57	0.8
BOCES	503	5.4	600	7.7	711	9.5	579	7.7	1096	10.4	616	7.7	263	2.7	0	0.0
Contractual and Other	1494	15.4	1127	15.5	1223	15.8	1310	17.0	1905	18.1	1312	15.7	2223	22.7	1472	19.9
Total Expenditures	9628		7941		7680		7628		10498		8312		9896		7402	

Note: Poverty is measured by percentage of pupils qualifying for free and reduced price lunches. Figures are weighted by district enrollment.

Table 2F
Expenditures Per Pupil by Object level
By Percent Minority Pupils

	0-20% n=582		21-40% n=40		41-60% n=12		61-80% n=92		+81% n=7		Total n=648		Big 4 n=4		NYC n=1	
Object Category	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%
Total Salaries	4603	57.4	5578	58.0	5699	57.1	5911	58.8	5686	56.4	4788	57.4	4841	58.0	4472	60.4
Certificated Salaries	3872	48.4	4562	47.4	4674	46.9	4798	47.7	4675	46.3	4005	48.2	3995	47.9	3355	45.3
Teacher Salaries	3340	41.9	3929	40.9	3980	39.9	4111	40.9	3972	39.4	3451	41.6	3370	40.5	3050	41.2
Non-Administration	271	3.3	326	3.4	347	3.5	341	3.4	357	3.5	282	3.3	292	3.4	100	1.4
School Site Admin.	192	2.4	237	2.5	292	2.9	299	3.0	298	3.0	204	2.4	279	3.4	198	2.7
Central Admin.	72	.9	78	.8	84	.8	56	.5	50	.5	72	0.9	67	0.8	7	0.1
Classified Salaries	728	8.9	1012	10.5	1017	10.2	1100	11.0	1002	10.0	780	9.2	836	10.0	1111	15.0
Benefits	1297	16.1	1524	15.7	1663	16.6	1651	16.3	1606	15.9	1346	16.1	1666	19.2	1224	16.5
Total Supplies	202	2.6	229	2.4	203	2.1	183	1.8	233	2.3	205	2.5	217	2.7	178	2.4
Texts	39	.5	45	.5	47	.5	38	.4	68	.7	40	0.5	63	0.8	38	0.5
Instruction Materials	81	1.0	93	1.0	95	1.0	78	.8	98	1.0	83	1.0	101	1.3	79	1.1
Non-Instruction Mat.	82	1.0	90	1.0	61	.6	67	.7	66	.6	81	1.0	76	0.8	61	0.8
Equipment	42	.5	66	.7	46	.5	45	.4	43	.4	44	0.5	113	1.3	57	0.8
BOCES	602	7.9	650	6.8	623	5.9	798	7.8	842	8.1	616	7.7	263	2.7	0	0.0
Contractual and Other	1245	15.6	1571	16.4	1774	17.8	1539	14.8	1726	17.0	1312	15.7	2223	22.7	1472	19.9
Total Expenditures	7989		9618		10009		10127		10135		8312		9896		7402	

Note: More refined measures of percent minority pupils were not available. Figures are weighted by district enrollment.

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Table 2G
Expenditures Per Pupil by Object level
By Performance Level

	Q1 n=137		Q2 n=131		Q3 n=115		Q4 n=112		Q5 n=150		Total n=648		Big 4 n=4		NYC n=1	
Object Category	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%
Total Salaries	4643	56.4	4382	56.2	4835	58.0	5002	58.4	5120	58.4	4788	57.4	4841	58.0	4472	60.4
Certificated Salaries	3851	46.9	3689	47.5	4066	49.0	4178	49.0	4282	49.0	4005	48.2	3995	47.9	3355	45.3
Teacher Salaries	3311	40.4	3196	41.2	3534	42.7	3591	42.2	3659	42.0	3451	41.6	3370	40.5	3050	41.2
Non-Administration	265	3.2	247	3.1	276	3.3	302	3.5	326	3.6	282	3.3	292	3.4	100	1.4
School Site Admin.	213	2.5	183	2.3	193	2.3	213	2.5	217	2.5	204	2.4	279	3.4	198	2.7
Central Admin.	71	0.9	65	0.9	67	0.8	73	0.9	86	1.0	72	0.9	67	0.8	7	0.1
Classified Salaries	786	9.4	691	8.7	766	8.9	820	9.4	837	9.3	780	9.2	836	10.0	1111	15.0
Benefits	1293	15.6	1284	16.4	1374	16.5	1376	16.1	1417	15.9	1346	16.1	1666	19.2	1224	16.5
Total Supplies	207	2.6	196	2.6	207	2.6	198	2.4	214	2.5	205	2.5	217	2.7	178	2.4
Texts	43	0.5	39	0.5	40	0.5	39	0.5	41	0.5	40	0.5	63	0.8	38	0.5
Instruction Materials	86	1.1	82	1.1	81	1.0	81	1.0	85	1.0	83	1.0	101	1.3	79	1.1
Non-Instruction Mat.	65	0.8	60	0.8	71	0.9	64	0.8	71	0.8	81	1.0	76	0.8	61	0.8
Equipment	46	0.6	39	0.5	44	0.6	44	0.5	48	0.5	44	0.5	113	1.3	57	0.8
BOCES	674	8.2	641	8.5	588	7.4	573	7.1	594	7.3	616	7.7	263	2.7	0	0.0
Contractual and Other	1391	16.7	1226	15.8	1241	15.0	1332	15.5	1356	15.5	1312	15.7	2223	22.7	1472	19.9
Total Expenditures	8255		7767		8290		8526		8750		8312		9896		7402	

Note: Quintile distributions are based on number of pupils so that approximately one fifth of the students are in each quintile. First quintile is lowest performing, fifth quintile is highest. Figures are weighted by district enrollment.

Table 3A
Expenditures Per Pupil by Function
By Spending Level

	Q1 n=87		Q2 n=147		Q3 n=68		Q4 n=118		Q5 n=128		Total n=648		Big 4 n=4		NYC n=1	
Function Category	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%
Instruction	3212	53.0	3482	52.6	3841	52.6	4587	52.2	5816	50.1	4297	52.0	4334	52.2	4481	60.5
Instructional Support	263	4.4	296	4.5	314	4.3	355	4.0	530	4.5	361	4.3	333	3.9	105	1.4
Administration	513	8.4	569	8.6	611	8.4	749	8.5	1081	9.2	725	8.6	669	8.1	401	5.4
School Site	206	3.4	239	3.6	254	3.5	353	4.0	509	4.4	324	3.8	408	4.9	228	3.0
Central	306	5.0	330	5.0	357	4.9	396	4.5	572	4.9	401	4.8	261	3.2	172	2.3
Pupil Services	154	2.5	178	2.7	202	2.8	258	2.9	406	3.5	249	2.9	195	2.2	87	1.2
Maint. and Operations	459	7.6	517	7.8	545	7.5	692	7.9	984	8.4	658	7.8	674	8.2	557	7.5
Transportation	327	5.4	342	5.2	393	5.4	487	5.5	617	5.3	445	5.3	527	6.3	397	5.3
Food Services	185	3.0	185	2.8	193	2.6	183	2.1	168	1.5	183	2.3	258	3.2	294	4.0
Debt Service	31	.5	40	.6	85	1.2	94	1.1	110	.9	74	.9	171	1.9	0	0
Other	921	15.1	1019	15.4	1126	15.4	1380	15.7	1947	16.7	1317	6.3	1161	14.0	1080	14.6
Total Expenditures		6067		6627		7309		8786		11660		8311		8232		7402

Note: Quintile distributions are based on number of pupils so that approximately one fifth of the students are in each quintile. First quintile is lowest spending per pupil, fifth quintile is highest spending per pupil. Figures are weighted by district enrollment.

Table 3B
Expenditures Per Pupil by Function
By District Size

	0 500 66		501- 1000 n= 102		1001- 1500 n= 145		1501- 5000 n= 271		5001- 10,00 n= 58		10, 000+ n =6		Total n=648		Big 4 n=4		NYC n=1	
Function Category	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%
Instruction	4355	51.5	4021	52.4	3922	51.9	4302	51.6	4496	52.6	4312	53.1	4297	52.0	4334	52.2	4481	60.5
Instructional Support	350	4.1	307	3.9	326	4.2	368	4.4	379	4.4	321	4.0	361	4.3	333	3.9	105	1.4
Administration	830	9.6	694	8.9	676	8.7	740	8.7	733	8.5	640	7.9	725	8.6	669	8.1	401	5.4
School Site	126	1.4	195	2.4	247	3.2	337	3.9	367	4.2	328	4.0	324	3.8	408	4.9	228	3.0
Central	704	8.2	499	6.4	429	5.6	403	4.8	366	4.2	312	3.9	401	4.8	261	3.2	172	2.3
Pupil Services	277	3.2	227	2.9	239	3.0	254	2.9	246	2.8	245	3.0	249	2.9	195	2.2	87	1.2
Maint. and Operations	572	6.7	552	7.1	583	7.5	672	7.9	692	8.0	647	8.0	658	7.8	674	8.2	557	7.5
Transportation	528	6.1	468	6.0	408	5.5	450	5.4	445	5.1	443	5.5	445	5.3	527	6.3	397	5.3
Food Services	247	3.1	209	2.8	195	2.7	181	2.3	171	2.1	188	2.3	183	2.3	258	3.2	294	4.0
Debt Service	57	.7	44	.5	58	.7	83	1.0	84	1.0	63	.8	74	.9	171	1.9	0	0
Other	1266	14.9	1211	15.5	1205	15.6	1346	15.9	1349	15.6	1240	15.2	1317	6.3	1161	14.0	1080	14.6
Total Expenditures		8482		7733		7613		8396		8595		8100		8311		8323		7402

Note: Figures are weighted by district enrollment.

Table 3C
Expenditures Per Pupil by Function
By District Property Wealth

	Q1 n=194		Q2 n=130		Q3 n=103		Q4 n=92		Q5 n=129		Total n=648		Big 4 n=4		NYC n=1	
Function Category	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%
Instruction	3583	53.1	3714	52.5	4110	52.9	4468	51.7	5692	49.6	4297	52.0	4334	52.2	4481	60.5
Instructional Support	277	4.1	311	4.4	311	4.1	379	4.4	538	4.6	361	4.3	333	3.9	105	1.4
Administration	564	8.3	602	8.5	657	8.5	742	8.6	1082	9.3	725	8.6	669	8.1	401	5.4
School Site	211	3.1	260	3.6	302	3.9	357	4.1	498	4.3	324	3.8	408	4.9	228	3.0
Central	354	5.2	342	4.9	355	4.6	385	4.5	583	5.0	401	4.8	261	3.2	172	2.3
Pupil Services	181	2.7	183	2.6	221	2.8	254	2.9	416	3.6	249	2.9	195	2.2	87	1.2
Maint. and Operations	495	7.3	541	7.6	591	7.7	695	8.1	992	8.6	658	7.8	674	8.2	557	7.5
Transportation	351	5.1	373	5.3	434	5.6	467	5.4	611	5.3	445	5.3	527	6.3	397	5.3
Food Services	212	3.2	189	2.7	176	2.3	171	2.0	165	1.5	183	2.3	258	3.2	294	4.0
Debt Service	62	.9	90	1.2	48	.6	73	.8	117	1.0	74	.9	171	1.9	0	0
Other	1017	15.1	1078	15.2	1222	15.7	1395	16.1	1907	16.5	1317	6.3	1161	14.0	1080	14.6
Total Expenditures		6742		7081		7770		8644		11519		8311		8232		7402

Note: District property wealth is selected full value divided by total weighted pupil units. Distriibutions are based on numbr of pupils so that approximately one fifth of the students are in each quintile. First quintile is lowest property wealth per pupil, fifth is highest. Figures are weighted by district enrollment.

Table 3D
Expenditures Per Pupil by Function
By District Income Wealth

	Q1 n=238		Q2 n=132		Q3 n=101		Q4 n=78		Q5 n=99		Total n=648		Big 4 n=4		NYC n=1	
Function Category	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%
Instruction	3651	52.8	3893	52.5	4076	52.7	4486	51.8	5483	49.9	4297	52.0	4334	52.2	4481	60.5
Instructional Support	275	4.0	317	4.3	328	4.3	376	4.4	521	4.7	361	4.3	333	3.9	105	1.4
Administration	588	8.4	613	8.3	663	8.5	754	8.7	1036	9.3	725	8.6	669	8.1	401	5.4
School Site	202	2.9	267	3.6	305	4.0	367	4.2	488	4.4	324	3.8	408	4.9	228	3.0
Central	386	5.5	346	4.7	357	4.6	387	4.5	549	4.9	401	4.8	261	3.2	172	2.3
Pupil Services	187	2.7	198	2.7	218	2.8	256	2.9	400	3.6	249	2.9	195	2.2	87	1.2
Maint. and Operations	494	7.2	570	7.7	606	7.8	692	8.0	956	8.6	658	7.8	674	8.2	557	7.5
Transportation	404	5.8	405	5.4	409	5.3	453	5.2	569	5.1	445	5.3	527	6.3	397	5.3
Food Services	217	3.2	197	2.7	171	2.2	168	2.0	160	1.5	183	2.3	258	3.2	294	4.0
Debt Service	65	.9	64	.9	60	.8	80	.9	122	1.1	74	.9	171	1.9	0	0
Other	1037	15.0	1159	15.6	1210	15.6	1415	16.2	1803	16.3	1317	6.3	1161	14.0	1080	14.6
Total Expenditures	6920		7416		7742		8680		11049		8311		8232		7402	

Note: Wealth is income per student. Quintile distributions are based on number of pupils so that approximately one fifth of the students are in each quintile. First quintile is lowest income per pupil, fifth quintile is highest. Figures are weighted by district enrollment.

Table 3E
Expenditures Per Pupil by Function
By Percent of Pupils in Poverty

	0-10% n=140		11-25% n=158		26-50% n=294		51-75% n=52		+ 75% n=4		Total n=648		Big 4 n=4		NYC n=1	
Function Category	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%
Instruction	4842	50.7	4139	52.2	4019	52.4	4046	53.2	5610	53.5	4297	52.0	4334	52.2	4481	60.5
Instructional Support	447	4.6	337	4.3	314	4.1	349	4.6	374	3.5	361	4.3	333	3.9	105	1.4
Administration	868	8.9	673	8.5	663	8.6	641	8.4	1090	10.3	725	8.6	669	8.1	401	5.4
School Site	411	4.2	299	3.7	277	3.5	300	3.9	476	4.6	324	3.8	408	4.9	228	3.0
Central	457	4.7	374	4.7	387	5.1	341	4.5	614	5.8	401	4.8	261	3.2	172	2.3
Pupil Services	320	3.2	233	2.9	213	2.7	213	2.8	295	2.8	249	2.9	195	2.2	87	1.2
Maint. and Operations	826	8.5	617	7.7	572	7.4	599	7.9	766	7.3	658	7.8	674	8.2	557	7.5
Transportation	505	5.3	440	5.5	418	5.4	381	4.9	437	4.1	445	5.3	527	6.3	397	5.3
Food Services	148	1.6	174	2.3	203	2.8	233	3.1	260	2.5	183	2.3	258	3.2	294	4.0
Debt Service	94	.9	58	.7	75	1.0	92	1.1	83	.8	74	.9	171	1.9	0	0
Other	1578	16.3	1269	15.9	1201	15.6	1074	14.0	1584	15.1	1317	6.3	1161	14.0	1080	14.6
Total Expenditures	9627		7940		7679		7627		10498		8311		8232		7402	

Note: Poverty is measured by percentage of pupils qualifying for free and reduced price lunches. Figures are weighted by district enrollment.

Table 3F
Expenditures Per Pupil by Function
By Percent Minority Pupils

	0-20% n=582		21-40% n=40		41-60% n=12		61-80% n=92		+81% n=7		Total n=648		Big 4 n=4		NYC n=1	
Function Category	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%
Instruction	4122	51.9	4996	52.2	5089	51.0	5367	53.3	5475	54.3	4297	52.0	4334	52.2	4481	60.5
Instructional Support	349	4.3	422	4.4	442	4.4	357	3.5	387	3.8	361	4.3	333	3.9	105	1.4
Administration	691	8.6	821	8.5	966	9.6	947	9.3	932	9.1	725	8.6	669	8.1	401	5.4
School Site	302	3.7	378	3.9	495	5.0	490	4.9	436	4.3	324	3.8	408	4.9	228	3.0
Central	389	4.9	443	4.6	471	4.6	457	4.4	497	4.8	401	4.8	261	3.2	172	2.3
Pupil Services	238	2.9	283	2.9	335	3.3	290	2.8	319	3.1	249	2.9	195	2.2	87	1.2
Maint. and Operations	633	7.8	792	8.1	742	7.5	757	7.4	811	8.0	658	7.8	674	8.2	557	7.5
Transportation	428	5.4	520	5.4	551	5.5	529	5.0	499	4.9	445	5.3	527	6.3	397	5.3
Food Services	179	2.4	190	2.1	207	2.2	222	2.3	189	1.9	183	2.3	258	3.2	294	4.0
Debt Service	72	.9	113	1.2	114	1.0	80	.8	0	0	74	.9	171	1.9	0	0
Other	1275	15.8	1478	15.1	1563	15.6	1576	15.6	1522	15.0	1317	6.3	1161	14.0	1080	14.6
Total Expenditures	7988		9617		10007		10125		10135		8311		8232		7402	

Note: More refined measures of percent minority pupils were not available. Figures are weighted by district enrollment.

Table 3G
Expenditures Per Pupil by Function
By Performance Level

	Q1 n=137		Q2 n=131		Q3 n=115		Q4 n=112		Q5 n=150		Total n=648		Big 4 n=4		NYC n=1	
Function Category	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%	amt	%
Instruction	4314	52.4	4026	52.0	4327	52.4	4370	51.6	4456	51.5	4297	52.0	4334	52.2	4481	60.5
Instructional Support	353	4.3	330	4.3	353	4.2	368	4.3	402	4.6	361	4.3	333	3.9	105	1.4
Administration	740	8.9	654	8.4	690	8.3	758	8.9	776	8.7	725	8.6	669	8.1	401	5.4
School Site	336	4.0	280	3.6	313	3.7	340	3.9	347	3.9	324	3.8	408	4.9	228	3.0
Central	404	4.9	374	4.9	376	4.6	418	4.9	429	4.8	401	4.8	261	3.2	172	2.3
Pupil Services	233	2.8	223	2.8	243	2.9	260	3.0	287	3.2	249	2.9	195	2.2	87	1.2
Maint. and Operations	635	7.7	596	7.7	651	7.8	700	8.1	716	8.1	658	7.8	674	8.2	557	7.5
Transportation	445	5.3	417	5.4	435	5.2	457	5.4	475	5.5	445	5.3	527	6.3	397	5.3
Food Services	207	2.6	189	2.6	177	2.3	166	2.1	170	2.1	183	2.3	258	3.2	294	4.0
Debt Service	87	1.1	73	0.9	67	0.8	89	1.0	68	0.7	74	.9	171	1.9	0	0
Other	1240	15.0	1257	16.1	1347	16.2	1355	15.8	1401	15.7	1317	6.3	1161	14.0	1080	14.6
Total Expenditures	8253		7766		8290		8525		8749		8311		8232		7402	

Note: Quintile distributions are based on number of pupils so that approximately one fifth of the students are in each quintile. First quintile is lowest performing, fifth quintile is highest. Figures are weighted by district enrollment.

Table 6A
District-Wide Instructional and Administrative Staffing Patterns
(Number of FTE Professional Staff per 1,000 District Pupils)
By Spending Level

Staffing Category	Q1 n=87	Q2 n=147	Q3 n=167	Q4 n=117	Q5 n=127	Total n=645
Elementary Regular	29.95	29.45	30.02	29.25	30.94	29.90
Elementary Specialists	2.84	3.18	3.50	4.10	4.26	3.67
Total Elementary	32.78	32.62	33.52	33.35	35.21	33.57
English (7-12)	5.20	5.25	5.43	5.31	6.10	5.48
Mathematics (7-12)	4.46	4.51	4.67	4.54	5.00	4.65
Social Studies (7-12)	4.04	4.05	4.06	4.09	4.65	4.19
Science (7-12)	3.86	3.98	4.01	4.18	4.95	4.23
Trade (7-12)	2.34	2.32	2.36	2.26	2.15	2.28
Foreign Language (7-12)	2.18	2.36	2.35	2.46	3.23	2.55
Music (7-12)	1.54	1.59	1.57	1.49	1.89	1.62
Phys. Ed. (7-12)	1.77	1.82	1.86	1.85	2.06	1.88
Business (7-12)	1.05	1.11	1.26	1.18	1.17	1.17
Art (7-12)	1.19	1.21	1.24	1.31	1.55	1.31
Resource Room (7-12)	1.03	1.15	1.22	1.19	1.77	1.29
Other Regular (7-12)	0.70	0.79	0.85	1.09	1.32	0.98
Health (7-12)	0.63	0.65	0.64	0.66	0.78	0.68
Other Vocational (7-12)	0.30	0.30	0.34	0.36	0.36	0.34
Special Classes (7-12)	1.04	1.22	1.32	2.10	2.33	1.67
Other Special (7-12)	0.07	0.10	0.15	0.11	0.08	0.11
ESL (7-12)	0.02	0.05	0.08	0.18	0.43	0.16
Total Secondary	31.42	32.46	33.40	34.36	39.82	34.59
Central Administration	1.08	1.12	1.21	1.08	1.35	1.18
School Administration	2.22	2.28	2.34	2.53	3.01	2.50
Special Administration	4.09	4.59	4.83	5.55	7.13	5.36
Subject Administration	0.76	1.25	1.11	1.81	2.37	1.54
Total District	8.15	9.23	9.49	10.97	13.85	10.58
Totals	72.35	74.32	76.42	78.68	88.87	78.73

Note: Figures are weighted by district enrollment.

Table 6B
District-Wide Instructional and Administrative Staffing Patterns
(Number of FTE Professional Staff per 1,000 District Pupils)
By District Size

Staffing Category	0-500 n=65	501-1000 n=102	1001-1500 n=144	1501-5000 n=270	5001-10,000 n=58	10,000+ n=6	Total n=645
Elementary Regular	37.84	33.39	31.41	29.77	29.01	26.43	29.90
Elementary Specialists	2.83	2.74	3.29	3.50	4.20	4.53	3.67
Total Elementary	40.67	36.14	34.70	33.27	33.22	30.97	33.57
English (7-12)	7.00	6.01	5.75	5.45	5.34	4.90	5.48
Mathematics (7-12)	6.61	5.51	5.08	4.62	4.37	4.02	4.65
Social Studies (7-12)	5.32	4.56	4.42	4.19	4.02	3.79	4.19
Science (7-12)	5.18	4.53	4.33	4.27	4.06	3.91	4.23
Trade (7-12)	3.41	2.61	2.41	2.20	2.26	2.16	2.28
Foreign Language (7-12)	3.02	2.55	2.57	2.59	2.52	2.11	2.55
Music (7-12)	2.82	2.01	1.75	1.63	1.47	1.21	1.62
Phys. Ed. (7-12)	2.54	2.09	2.01	1.87	1.78	1.81	1.88
Business (7-12)	2.31	1.59	1.26	1.09	1.09	1.37	1.17
Art (7-12)	1.78	1.40	1.35	1.30	1.28	1.27	1.31
Resource Room (7-12)	1.37	1.39	1.41	1.29	1.29	0.98	1.29
Other Regular (7-12)	1.26	0.86	0.98	0.92	1.03	1.34	0.98
Health (7-12)	1.03	0.73	0.73	0.67	0.65	0.61	0.68
Other Vocational (7-12)	0.85	0.51	0.33	0.29	0.34	0.40	0.34
Special Classes (7-12)	0.78	1.09	1.25	1.56	2.10	2.28	1.67
Other Special (7-12)	0.22	0.05	0.10	0.11	0.11	0.07	0.11
ESL (7-12)	0.02	0.04	0.05	0.16	0.25	0.17	0.16
Total Secondary	45.52	37.53	35.77	34.21	33.98	32.41	34.59
Central Administration	3.65	1.79	1.38	1.19	0.88	0.79	1.18
School Administration	1.60	2.13	2.32	2.60	2.54	2.42	2.50
Special Administration	5.15	4.45	4.77	5.42	5.70	5.36	5.36
Subject Administration	0.68	0.69	1.04	1.59	1.81	1.83	1.54
Total District	11.08	9.06	9.50	10.80	10.93	10.40	10.58
Totals	97.27	82.73	79.98	78.28	78.13	73.77	78.73

Note: Figures are weighted by district enrollment.

Table 6C
District-Wide Instructional and Administrative Staffing Patterns
(Number of FTE Professional Staff per 1,000 District Pupils)
By District Property Wealth

Staffing Category	Q1 n=194	Q2 n=130	Q3 n=103	Q4 n=91	Q5 n=127	Total n=645
Elementary Regular	30.75	29.41	28.76	29.14	31.67	29.90
Elementary Specialists	3.38	3.73	3.47	3.68	4.12	3.67
Total Elementary	34.12	33.14	32.23	32.82	35.79	33.57
English (7-12)	5.32	5.28	5.21	5.44	6.21	5.48
Mathematics (7-12)	4.73	4.43	4.49	4.55	5.11	4.65
Social Studies (7-12)	4.09	4.03	3.96	4.20	4.72	4.19
Science (7-12)	3.99	3.87	3.96	4.31	5.09	4.23
Trade (7-12)	2.45	2.37	2.23	2.24	2.11	2.28
Foreign Language (7-12)	2.20	2.22	2.34	2.66	3.39	2.55
Music (7-12)	1.56	1.53	1.51	1.61	1.90	1.62
Phys. Ed. (7-12)	1.82	1.79	1.88	1.83	2.09	1.88
Business (7-12)	1.21	1.21	1.21	1.12	1.09	1.17
Art (7-12)	1.19	1.20	1.29	1.33	1.56	1.31
Resource Room (7-12)	1.15	1.19	1.09	1.26	1.82	1.29
Other Regular (7-12)	0.70	0.90	0.95	0.89	1.49	0.98
Health (7-12)	0.64	0.65	0.63	0.67	0.80	0.68
Other Vocational (7-12)	0.34	0.30	0.34	0.37	0.33	0.34
Special Classes (7-12)	1.21	1.56	1.74	1.79	2.05	1.67
Other Special (7-12)	0.09	0.10	0.13	0.11	0.09	0.11
ESL (7-12)	0.02	0.11	0.12	0.21	0.38	0.16
Total Secondary	32.73	32.75	33.09	34.58	40.23	34.59
Central Administration	1.29	1.11	1.03	1.10	1.38	1.18
School Administration	2.25	2.31	2.40	2.56	3.03	2.50
Special Administration	4.36	4.79	4.84	5.73	7.23	5.36
Subject Administration	0.96	1.35	1.36	1.80	2.26	1.54
Total District	8.86	9.56	9.63	11.19	13.90	10.58
Totals	75.71	75.45	74.96	78.59	89.92	78.73

Note: Figures are weighted by district enrollment.

Table 6D
District-Wide Instructional and Administrative Staffing Patterns
(Number of FTE Professional Staff per 1,000 District Pupils)
By District Income Wealth

Staffing Category	Q1 n=238	Q2 n=132	Q3 n=99	Q4 n=78	Q5 n=98	Total n=645
Elementary Regular	31.22	29.48	28.99	28.87	31.28	29.90
Elementary Specialists	3.08	3.86	3.90	3.49	4.03	3.67
Total Elementary	34.30	33.34	32.90	32.35	35.31	33.57
English (7-12)	5.44	5.31	5.35	5.42	5.95	5.48
Mathematics (7-12)	4.86	4.55	4.46	4.49	4.98	4.65
Social Studies (7-12)	4.18	4.02	4.10	4.16	4.54	4.19
Science (7-12)	4.03	3.92	4.11	4.23	4.94	4.23
Trade (7-12)	2.50	2.39	2.21	2.19	2.10	2.28
Foreign Language (7-12)	2.23	2.24	2.44	2.58	3.33	2.55
Music (7-12)	1.65	1.51	1.56	1.55	1.86	1.62
Phys. Ed. (7-12)	1.87	1.82	1.88	1.84	2.02	1.88
Business (7-12)	1.30	1.24	1.16	1.07	1.07	1.17
Art (7-12)	1.21	1.24	1.30	1.28	1.54	1.31
Resource Room (7-12)	1.12	1.17	1.24	1.27	1.73	1.29
Other Regular (7-12)	0.72	0.88	0.92	0.96	1.46	0.98
Health (7-12)	0.66	0.64	0.67	0.68	0.74	0.68
Other Vocational (7-12)	0.35	0.33	0.34	0.30	0.36	0.34
Special Classes (7-12)	1.10	1.73	1.68	1.81	2.01	1.67
Other Special (7-12)	0.09	0.10	0.15	0.10	0.09	0.11
ESL (7-12)	0.03	0.13	0.08	0.21	0.39	0.16
Total Secondary	33.33	33.22	33.66	34.14	39.12	34.59
Central Administration	1.40	1.11	1.04	1.05	1.32	1.18
School Administration	2.16	2.43	2.36	2.59	3.02	2.50
Special Administration	4.24	4.76	5.17	5.68	7.11	5.36
Subject Administration	0.94	1.27	1.53	1.69	2.32	1.54
Total District	8.73	9.58	10.09	11.00	13.76	10.58
Totals	76.37	76.14	76.65	77.49	88.19	78.73

Note: Figures are weighted by district enrollment.

Table 6E
District-Wide Instructional and Administrative Staffing Patterns
(Number of FTE Professional Staff per 1,000 District Pupils)
By Percent of Pupils in Poverty (FRPL Count)

Staffing Category	0-10% n=138	11-25% n=157	26-50% n=294	51-75% n=52	over 75% n=4	Total n=645
Elementary Regular	29.96	28.91	30.47	30.63	29.55	29.90
Elementary Specialists	3.60	3.66	3.61	4.06	4.71	3.67
Total Elementary	33.56	32.58	34.08	34.69	34.26	33.57
English (7-12)	5.78	5.33	5.42	5.43	4.37	5.48
Mathematics (7-12)	4.77	4.50	4.68	4.73	4.17	4.65
Social Studies (7-12)	4.43	4.13	4.16	3.86	3.22	4.19
Science (7-12)	4.75	4.15	4.03	3.75	3.21	4.23
Trade (7-12)	2.15	2.20	2.38	2.60	1.61	2.28
Foreign Language (7-12)	3.10	2.46	2.29	2.15	2.26	2.55
Music (7-12)	1.83	1.56	1.57	1.39	1.04	1.62
Phys. Ed. (7-12)	1.99	1.88	1.82	1.81	1.71	1.88
Business (7-12)	0.99	1.09	1.28	1.49	1.60	1.17
Art (7-12)	1.46	1.30	1.20	1.34	1.13	1.31
Resource Room (7-12)	1.63	1.25	1.20	0.79	0.85	1.29
Other Regular (7-12)	1.13	0.94	0.79	1.25	2.32	0.98
Health (7-12)	0.73	0.68	0.64	0.64	0.70	0.68
Other Vocational (7-12)	0.32	0.32	0.33	0.45	0.28	0.34
Special Classes (7-12)	1.67	1.62	1.55	2.18	3.02	1.67
Other Special (7-12)	0.08	0.14	0.10	0.08	0.15	0.11
ESL (7-12)	0.19	0.10	0.16	0.23	0.71	0.16
Total Secondary	37.01	33.66	33.60	34.17	32.37	34.59
Central Administration	1.17	1.10	1.21	1.30	1.21	1.18
School Administration	2.69	2.40	2.41	2.59	2.82	2.50
Special Administration	6.26	5.04	4.95	5.14	6.41	5.36
Subject Administration	1.93	1.47	1.25	1.63	2.08	1.54
Total District	12.04	10.01	9.82	10.66	12.52	10.58
Totals	82.61	76.25	77.50	79.52	79.14	78.73

Note: Figures are weighted by district enrollment.

Table 6F
District-Wide Instructional and Administrative Staffing Patterns
(Number of FTE Professional Staff per 1,000 District Pupils)
By Performance Level

Staffing Category	Q1 n=137	Q2 n=131	Q3 n=115	Q4 n=112	Q5 n=150	Total n=645
Elementary Regular	29.71	30.11	29.59	29.85	30.23	29.90
Elementary Specialists	4.01	3.33	3.97	3.60	3.42	3.67
Total Elementary	33.72	33.44	33.56	33.45	33.66	33.57
English (7-12)	5.36	5.33	5.54	5.50	5.71	5.48
Mathematics (7-12)	4.58	4.59	4.57	4.58	4.94	4.65
Social Studies (7-12)	3.98	4.08	4.25	4.21	4.46	4.19
Science (7-12)	3.97	3.98	4.29	4.36	4.60	4.23
Trade (7-12)	2.32	2.29	2.32	2.20	2.26	2.28
Foreign Language (7-12)	2.31	2.31	2.55	2.70	2.91	2.55
Music (7-12)	1.49	1.57	1.69	1.62	1.75	1.62
Phys. Ed. (7-12)	1.85	1.77	1.95	1.89	1.96	1.88
Business (7-12)	1.41	1.11	1.07	1.09	1.12	1.17
Art (7-12)	1.23	1.24	1.35	1.33	1.42	1.31
Resource Room (7-12)	1.10	1.15	1.37	1.42	1.47	1.29
Other Regular (7-12)	1.12	0.90	0.81	1.07	0.97	0.98
Health (7-12)	0.62	0.64	0.68	0.73	0.72	0.68
Other Vocational (7-12)	0.36	0.30	0.34	0.37	0.31	0.34
Special Classes (7-12)	2.13	1.56	1.71	1.54	1.34	1.67
Other Special (7-12)	0.10	0.12	0.13	0.10	0.07	0.11
ESL (7-12)	0.28	0.09	0.15	0.16	0.12	0.16
Total Secondary	34.22	33.04	34.76	34.88	36.14	34.59
Central Administration	1.22	1.09	1.17	1.16	1.23	1.18
School Administration	2.66	2.44	2.44	2.47	2.49	2.50
Special Administration	5.40	5.08	5.33	5.38	5.62	5.36
Subject Administration	1.61	1.36	1.45	1.69	1.58	1.54
Total District	10.89	9.96	10.38	10.70	10.91	10.58
Totals	78.82	76.44	78.70	79.04	80.71	78.73

Note: Figures are weighted by district enrollment.

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Table 7A
Secondary School (7-12) Instructional Staffing Patterns
(Number of FTE Professional Staff per 1,000 District Pupils)
By District Spending Level

Staffing Category	Q1 n=87	Q2 n=147	Q3 n=167	Q4 n=117	Q5 n=127	Total n=645
English Total	5.20	5.25	5.43	5.31	6.10	5.48
Advanced English	0.18	0.26	0.25	0.38	0.50	0.33
Regular English	4.20	4.21	4.23	4.09	4.70	4.29
Remedial English	0.82	0.78	0.95	0.83	0.89	0.86
Math Total	4.46	4.51	4.67	4.54	5.00	4.65
Advanced Math	0.36	0.38	0.35	0.47	0.65	0.45
Regular Math	3.05	3.15	3.17	3.13	3.65	3.25
Remedial Math	1.05	0.98	1.15	0.94	0.70	0.96
Science Total	3.86	3.98	4.01	4.18	4.95	4.23
Advanced Science	0.16	0.22	0.20	0.41	0.64	0.34
Regular Science	3.65	3.72	3.76	3.73	4.25	3.84
Remedial Science	0.06	0.04	0.04	0.05	0.06	0.05
Social Studies Total	4.04	4.05	4.06	4.09	4.65	4.19
Advanced Social Studies	0.11	0.19	0.18	0.35	0.51	0.29
Regular Social Studies	3.83	3.78	3.77	3.66	4.03	3.81
Remedial Social Studies	0.10	0.09	0.11	0.08	0.11	0.10
Foreign Language	2.18	2.36	2.35	2.46	3.23	2.55
Advanced Foreign Language	0.06	0.08	0.08	0.17	0.24	0.13
Regular Foreign Language	2.12	2.28	2.28	2.30	2.99	2.42
Remedial Foreign Language	0.00	0.00	0.00	0.00	0.00	0.00
Total Advanced	0.88	1.13	1.07	1.78	2.55	1.55
Total Regular	16.85	17.14	17.20	16.91	19.62	17.60
Total Remedial	2.02	1.89	2.25	1.90	1.77	1.96
Total Core	19.75	20.15	20.52	20.58	23.94	21.10

Note: Figures are weighted by district enrollment.

Table 7B
Secondary School (7-12) Instructional Staffing Patterns
(Number of FTE Professional Staff per 1,000 District Pupils)
By District Size

Staffing Category	0-500 n=65	501-1000 n=102	1001-1500 n=144	1501-5000 n=270	5001-10,000 n=58	10,000+ n=6	Total n=645
English Total	7.00	6.01	5.75	5.45	5.34	4.90	5.48
Advanced English	0.09	0.16	0.24	0.34	0.37	0.45	0.33
Regular English	5.75	4.79	4.66	4.26	4.10	3.85	4.29
Remedial English	1.16	1.06	0.85	0.85	0.87	0.61	0.86
Math Total	6.61	5.51	5.08	4.62	4.37	4.02	4.65
Advanced Math	0.23	0.31	0.42	0.48	0.45	0.44	0.45
Regular Math	4.41	3.69	3.50	3.23	3.07	2.93	3.25
Remedial Math	1.97	1.50	1.16	0.91	0.85	0.64	0.96
Science Total	5.18	4.53	4.33	4.27	4.06	3.91	4.23
Advanced Science	0.05	0.07	0.19	0.36	0.42	0.54	0.34
Regular Science	5.08	4.41	4.09	3.87	3.59	3.32	3.84
Remedial Science	0.05	0.06	0.05	0.05	0.05	0.05	0.05
Social Studies Total	5.32	4.56	4.42	4.19	4.02	3.79	4.19
Advanced Social Studies	0.06	0.08	0.19	0.28	0.35	0.51	0.29
Regular Social Studies	5.11	4.37	4.12	3.81	3.59	3.21	3.81
Remedial Social Studies	0.15	0.11	0.11	0.10	0.08	0.07	0.10
Foreign Language	3.02	2.55	2.57	2.59	2.52	2.11	2.55
Advanced Foreign Language	0.03	0.04	0.08	0.15	0.15	0.16	0.13
Regular Foreign Language	2.99	2.51	2.49	2.44	2.37	1.96	2.42
Remedial Foreign Language	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Advanced	0.45	0.66	1.11	1.61	1.75	2.10	1.55
Total Regular	23.34	19.77	18.86	17.61	16.71	15.27	17.60
Total Remedial	3.32	2.74	2.17	1.91	1.85	1.37	1.96
Total Core	27.12	23.17	22.14	21.13	20.31	18.74	21.10

Note: Figures are weighted by district enrollment.

Table 7C
Secondary School (7-12) Instructional Staffing Patterns
(Number of FTE Professional Staff per 1,000 District Pupils)
By District Property Wealth

Staffing Category	Q1 n=194	Q2 n=130	Q3 n=103	Q4 n=91	Q5 n=127	Total n=645
English Total	5.32	5.28	5.21	5.44	6.21	5.48
Advanced English	0.17	0.23	0.33	0.44	0.49	0.33
Regular English	4.24	4.14	4.11	4.14	4.87	4.29
Remedial English	0.91	0.91	0.77	0.86	0.84	0.86
Math Total	4.73	4.43	4.49	4.55	5.11	4.65
Advanced Math	0.30	0.32	0.40	0.55	0.70	0.45
Regular Math	3.16	3.05	3.12	3.21	3.73	3.25
Remedial Math	1.27	1.05	0.97	0.79	0.68	0.96
Science Total	3.99	3.87	3.96	4.31	5.09	4.23
Advanced Science	0.12	0.20	0.29	0.48	0.65	0.34
Regular Science	3.82	3.62	3.64	3.78	4.38	3.84
Remedial Science	0.05	0.05	0.04	0.05	0.06	0.05
Social Studies Total	4.09	4.03	3.96	4.20	4.72	4.19
Advanced Social Studies	0.10	0.15	0.27	0.43	0.50	0.29
Regular Social Studies	3.87	3.77	3.63	3.70	4.10	3.81
Remedial Social Studies	0.12	0.11	0.07	0.07	0.12	0.10
Foreign Language	2.20	2.22	2.34	2.66	3.39	2.55
Advanced Foreign Language	0.04	0.07	0.11	0.20	0.25	0.13
Regular Foreign Language	2.17	2.15	2.23	2.46	3.13	2.42
Remedial Foreign Language	0.00	0.00	0.00	0.00	0.00	0.00
Total Advanced	0.72	0.97	1.40	2.09	2.60	1.55
Total Regular	17.25	16.73	16.72	17.29	20.22	17.60
Total Remedial	2.36	2.12	1.86	1.77	1.70	1.96
Total Core	20.33	19.83	19.97	21.16	24.52	21.10

Note: Figures are weighted by district enrollment.

Table 7D
Secondary School (7-12) Instructional Staffing Patterns
(Number of FTE Professional Staff per 1,000 District Pupils)
By District Income Wealth

Staffing Category	Q1 n=238	Q2 n=132	Q3 n=99	Q4 n=78	Q5 n=98	Total n=645
English Total	5.44	5.31	5.35	5.42	5.95	5.48
Advanced English	0.15	0.24	0.33	0.43	0.52	0.33
Regular English	4.32	4.14	4.21	4.20	4.63	4.29
Remedial English	0.97	0.93	0.80	0.79	0.80	0.86
Math Total	4.86	4.55	4.46	4.49	4.98	4.65
Advanced Math	0.29	0.31	0.42	0.52	0.73	0.45
Regular Math	3.22	3.05	3.20	3.20	3.60	3.25
Remedial Math	1.34	1.18	0.84	0.77	0.65	0.96
Science Total	4.03	3.92	4.11	4.23	4.94	4.23
Advanced Science	0.11	0.21	0.30	0.47	0.65	0.34
Regular Science	3.87	3.66	3.77	3.71	4.24	3.84
Remedial Science	0.06	0.05	0.04	0.05	0.05	0.05
Social Studies Total	4.18	4.02	4.10	4.16	4.54	4.19
Advanced Social Studies	0.08	0.18	0.27	0.39	0.51	0.29
Regular Social Studies	3.98	3.73	3.74	3.69	3.93	3.81
Remedial Social Studies	0.12	0.10	0.09	0.07	0.10	0.10
Foreign Language	2.23	2.24	2.44	2.58	3.33	2.55
Advanced Foreign Language	0.04	0.09	0.11	0.17	0.28	0.13
Regular Foreign Language	2.19	2.16	2.34	2.41	3.06	2.42
Remedial Foreign Language	0.00	0.00	0.00	0.00	0.00	0.00
Total Advanced	0.67	1.03	1.43	1.98	2.69	1.55
Total Regular	17.58	16.74	17.26	17.22	19.45	17.60
Total Remedial	2.49	2.27	1.77	1.68	1.60	1.96
Total Core	20.74	20.04	20.46	20.88	23.74	21.10

Note: Figures are weighted by district enrollment.

Table 7E
Secondary School (7-12) Instructional Staffing Patterns
(Number of FTE Professional Staff per 1,000 District Pupils)
By Percent of District Pupils in Poverty (FRPL Count)

Staffing Category	Q1 n=138	Q2 n=157	Q3 n=294	Q4 n=52	Q5 n=4	Total n=645
English Total	5.78	5.33	5.42	5.43	4.37	5.48
Advanced English	0.49	0.35	0.22	0.24	0.26	0.33
Regular English	4.56	4.20	4.23	4.13	3.04	4.29
Remedial English	0.73	0.78	0.97	1.05	1.07	0.86
Math Total	4.77	4.50	4.68	4.73	4.17	4.65
Advanced Math	0.68	0.43	0.34	0.30	0.19	0.45
Regular Math	3.48	3.24	3.15	2.99	2.65	3.25
Remedial Math	0.61	0.83	1.20	1.44	1.33	0.96
Science Total	4.75	4.15	4.03	3.75	3.21	4.23
Advanced Science	0.61	0.32	0.20	0.20	0.14	0.34
Regular Science	4.12	3.78	3.77	3.48	2.97	3.84
Remedial Science	0.03	0.04	0.06	0.06	0.10	0.05
Social Studies Total	4.43	4.13	4.16	3.86	3.22	4.19
Advanced Social Studies	0.47	0.30	0.15	0.21	0.05	0.29
Regular Social Studies	3.89	3.73	3.89	3.52	3.06	3.81
Remedial Social Studies	0.08	0.09	0.11	0.13	0.11	0.10
Foreign Language	3.10	2.46	2.29	2.15	2.26	2.55
Advanced Foreign Language	0.24	0.12	0.07	0.10	0.03	0.13
Regular Foreign Language	2.86	2.34	2.22	2.06	2.24	2.42
Remedial Foreign Language	0.00	0.00	0.00	0.00	0.00	0.00
Total Advanced	2.48	1.52	0.98	1.05	0.66	1.55
Total Regular	18.90	17.29	17.25	16.18	13.96	17.60
Total Remedial	1.45	1.75	2.34	2.69	2.62	1.96
Total Core	22.83	20.56	20.57	19.91	17.24	21.10

Note: Figures are weighted by district enrollment.

Table 7F
Secondary School (7-12) Instructional Staffing Patterns
(Number of FTE Professional Staff per 1,000 District Pupils)
By Performance Level

Staffing Category	Q1 n=137	Q2 n=131	Q3 n=115	Q4 n=112	Q5 n=150	Total n=645
English Total	5.36	5.33	5.54	5.50	5.71	5.48
Advanced English	0.24	0.30	0.33	0.36	0.44	0.33
Regular English	4.11	4.12	4.32	4.38	4.56	4.29
Remedial English	1.01	0.91	0.89	0.76	0.71	0.86
Math Total	4.58	4.59	4.57	4.58	4.94	4.65
Advanced Math	0.32	0.39	0.44	0.53	0.59	0.45
Regular Math	3.06	3.15	3.25	3.30	3.50	3.25
Remedial Math	1.19	1.05	0.88	0.74	0.86	0.96
Science Total	3.97	3.98	4.29	4.36	4.60	4.23
Advanced Science	0.26	0.27	0.33	0.41	0.47	0.34
Regular Science	3.65	3.66	3.90	3.92	4.09	3.84
Remedial Science	0.07	0.05	0.05	0.03	0.05	0.05
Social Studies Total	3.98	4.08	4.25	4.21	4.46	4.19
Advanced Social Studies	0.20	0.25	0.28	0.33	0.38	0.29
Regular Social Studies	3.66	3.72	3.88	3.81	3.99	3.81
Remedial Social Studies	0.12	0.10	0.10	0.08	0.09	0.10
Foreign Language	2.31	2.31	2.55	2.70	2.91	2.55
Advanced Foreign Language	0.09	0.11	0.11	0.17	0.18	0.13
Regular Foreign Language	2.22	2.20	2.44	2.53	2.73	2.42
Remedial Foreign Language	0.00	0.00	0.00	0.00	0.00	0.00
Total Advanced	1.12	1.33	1.49	1.80	2.06	1.55
Total Regular	16.70	16.85	17.79	17.94	18.87	17.60
Total Remedial	2.39	2.12	1.91	1.60	1.70	1.96
Total Core	20.21	20.30	21.19	21.34	22.63	21.11

Note: Figures are weighted by district enrollment.

Table 9A
Percent Teacher Time and Percent Pupil Time By Secondary School Subject Area
By Spending Level

Subject Category	Q1 n=87			Q2 n=147			Q3 n=167			Q4 n=117			Q5 n=127		
	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT
English	16.59	17.05	0.97	16.19	16.69	0.97	16.26	16.64	0.98	15.43	16.55	0.93	15.31	16.17	0.95
Mathematics	14.15	14.53	0.97	13.86	14.44	0.96	13.96	14.20	0.98	13.19	14.15	0.93	12.54	13.95	0.90
Social Studies	12.90	15.32	0.84	12.53	15.35	0.82	12.22	15.06	0.81	11.93	14.79	0.81	11.72	14.52	0.81
Science	12.32	12.58	0.98	12.31	12.50	0.98	12.03	12.35	0.97	12.17	12.38	0.98	12.42	12.18	1.02
Trade	7.43	7.81	0.95	7.15	7.64	0.94	7.06	7.76	0.91	6.57	6.94	0.95	5.42	6.00	0.91
Foreign Language	6.98	7.78	0.90	7.27	8.09	0.90	7.05	8.00	0.88	7.14	8.03	0.89	8.09	9.01	0.90
Music*	4.89	4.64	1.05	4.88	4.57	1.07	4.69	4.42	1.06	4.32	4.04	1.07	4.71	4.50	1.05
Phys. Ed.*	5.65	5.34	1.06	5.61	5.26	1.07	5.57	5.24	1.06	5.39	5.04	1.07	5.16	4.95	1.04
Business	3.32	3.20	1.04	3.39	3.31	1.02	3.73	3.42	1.09	3.42	3.30	1.04	2.98	3.01	0.99
Art	3.80	4.55	0.85	3.73	4.46	0.84	3.70	4.53	0.82	3.79	4.74	0.80	3.89	4.65	0.84
Resource Room	3.26	0.88	3.70	3.53	0.95	3.72	3.65	0.96	3.80	3.46	0.89	3.89	4.41	1.19	3.71
Other Regular	2.21	1.78	1.24	2.37	1.72	1.38	2.52	2.10	1.20	3.17	2.55	1.24	3.21	2.82	1.14
Health	2.02	2.68	0.75	2.00	2.60	0.77	1.93	2.65	0.73	1.92	2.70	0.71	1.93	2.80	0.69
Other Vocational	0.95	0.75	1.27	0.91	0.81	1.12	1.02	0.91	1.12	1.01	0.85	1.19	0.89	0.83	1.07
Special Classes	3.28	0.99	3.31	3.78	1.39	2.72	3.93	1.48	2.66	6.24	2.62	2.38	6.02	2.72	2.21
Other Special	0.21	0.10	2.10	0.32	0.16	2.00	0.44	0.20	2.20	0.31	0.12	2.58	0.21	0.06	3.50
ESL	0.06	0.02	3.00	0.16	0.06	2.67	0.24	0.09	2.67	0.54	0.29	1.86	1.09	0.65	1.68
Average Pupil Load per FTE Teacher	83.97			84.87			81.97			83.21			82.85		

TT - Percent Teacher Time PT - Percent Pupil Time

Note: Figures are weighted by district enrollment. *Due to complications regarding the reporting of pupil counts for music teachers and physical education teachers, percent pupil time (PT) for these subject areas was calculated using an average pupil load for all secondary teachers within each district.

Table 9B
Percent Teacher Time and Percent Pupil Time By Secondary School Subject Area
By District Size

Subject Category	0-500 n=65			501-1000 n=102			1001-1500 n=144			1501-5000 n=270			5001-10,000 n=58			over 10,000 n=6		
	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT
English	15.51	16.26	0.95	16.04	16.52	0.97	16.10	16.19	0.99	15.97	16.73	0.95	15.73	16.49	0.95	15.12	16.52	0.92
Mathematics	14.70	13.68	1.07	14.71	13.95	1.05	14.24	14.28	1.00	13.53	14.33	0.94	12.95	14.12	0.92	12.32	14.01	0.88
Social Studies	11.80	15.06	0.78	12.23	14.75	0.83	12.42	14.72	0.84	12.32	15.14	0.81	11.90	14.80	0.80	11.73	14.98	0.78
Science	11.46	11.24	1.02	12.05	11.81	1.02	12.14	12.04	1.01	12.49	12.56	0.99	11.91	12.32	0.97	12.07	12.51	0.96
Trade	7.42	8.23	0.90	7.02	8.67	0.81	6.88	8.29	0.83	6.50	6.94	0.94	6.71	6.88	0.98	6.66	6.52	1.02
Foreign Language	6.55	6.89	0.95	6.77	7.22	0.94	7.10	7.59	0.94	7.52	8.39	0.90	7.39	8.53	0.87	6.50	7.74	0.84
Music*	6.22	6.20	1.00	5.40	5.36	1.01	4.89	4.77	1.03	4.76	4.48	1.06	4.33	3.99	1.09	3.79	3.50	1.08
Phys. Ed.*	5.55	5.53	1.00	5.58	5.52	1.01	5.64	5.50	1.03	5.49	5.17	1.06	5.28	4.87	1.08	5.54	5.07	1.09
Business	4.99	4.32	1.16	4.27	3.69	1.16	3.55	3.27	1.09	3.23	3.18	1.02	3.20	3.26	0.98	4.12	3.24	1.27
Art	3.94	4.65	0.85	3.74	4.93	0.76	3.77	5.01	0.75	3.79	4.52	0.84	3.75	4.48	0.84	3.87	4.58	0.84
Resource Room	2.97	0.79	3.76	3.73	1.08	3.45	3.84	1.12	3.43	3.72	0.98	3.80	3.76	0.97	3.88	3.06	0.71	4.31
Other Regular	2.60	1.66	1.57	2.18	1.72	1.27	2.60	2.04	1.27	2.59	2.07	1.25	2.99	2.61	1.15	4.21	3.26	1.29
Health	2.25	3.22	0.70	1.93	2.73	0.71	2.04	2.93	0.70	1.96	2.58	0.76	1.92	2.73	0.70	1.86	2.70	0.69
Other Vocational	1.78	1.48	1.20	1.36	0.86	1.58	0.92	0.79	1.16	0.86	0.78	1.10	1.01	0.88	1.15	1.20	1.15	1.04
Special Classes	1.67	0.57	2.93	2.77	1.08	2.56	3.47	1.26	2.75	4.51	1.76	2.56	6.13	2.60	2.36	7.19	3.16	2.28
Other Special	0.53	0.22	2.41	0.14	0.08	1.75	0.27	0.15	1.80	0.32	0.16	2.00	0.34	0.08	4.25	0.21	0.03	7.00
ESL	0.06	0.02	3.00	0.09	0.03	3.00	0.12	0.05	2.40	0.44	0.23	1.91	0.71	0.40	1.78	0.54	0.33	2.23
Average Pupil Load per FTE Teacher	73.25			80.25			83.03			83.88			83.67			84.83		

TT - Percent Teacher Time PT - Percent Pupil Time

Note: Figures are weighted by district enrollment. *Due to complications regarding the reporting of pupil counts for music teachers and physical education teachers, percent pupil time (PT) for these subject areas was calculated using an average pupil load for all secondary teachers within each district.

Table 9C
Percent Teacher Time and Percent Pupil Time By Secondary School Subject Area
By District Property Wealth

Subject Category	Q1 n=194			Q2 n=130			Q3 n=103			Q4 n=91			Q5 n=127		
	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT
English	16.26	16.75	0.97	16.12	16.67	0.97	15.77	16.44	0.96	15.78	16.74	0.94	15.43	16.25	0.95
Mathematics	14.42	14.35	1.00	13.49	14.12	0.96	13.56	14.31	0.95	13.15	14.31	0.92	12.71	14.00	0.91
Social Studies	12.57	15.34	0.82	12.34	15.12	0.82	12.00	14.79	0.81	12.17	15.08	0.81	11.81	14.51	0.81
Science	12.22	12.33	0.99	11.87	12.29	0.97	11.99	12.24	0.98	12.49	12.72	0.98	12.64	12.29	0.97
Trade	7.48	8.16	0.92	7.22	7.90	0.91	6.73	7.27	0.93	6.49	6.59	0.98	5.25	5.86	0.90
Foreign Language	6.76	7.50	0.90	6.80	7.84	0.87	7.07	7.99	0.88	7.69	8.59	0.90	8.42	9.24	0.91
Music*	4.76	4.56	1.04	4.68	4.42	1.06	4.57	4.28	1.07	4.64	4.28	1.08	4.71	4.49	1.05
Phys. Ed.*	5.59	5.35	1.04	5.47	5.17	1.06	5.69	5.32	1.07	5.33	4.93	1.08	5.17	4.94	1.05
Business	3.66	3.45	1.06	3.67	3.56	1.03	3.63	3.37	1.08	3.20	3.20	1.00	2.68	2.66	1.01
Art	3.64	4.62	0.79	3.66	4.31	0.85	3.90	4.64	0.84	3.84	4.66	0.82	3.87	4.72	1.22
Resource Room	3.50	0.96	3.65	3.66	0.96	3.81	3.27	0.84	3.89	3.63	0.96	3.78	4.53	1.21	3.74
Other Regular	2.14	1.83	1.17	2.70	1.98	1.36	2.87	2.30	1.25	2.54	1.80	1.41	3.60	3.40	1.06
Health	1.97	2.60	0.76	2.01	2.70	0.74	1.91	2.64	0.72	1.92	2.70	0.71	1.97	2.80	0.71
Other Vocational	1.03	0.84	1.23	0.89	0.79	1.13	1.02	0.93	1.10	1.05	0.86	1.22	0.80	0.76	1.05
Special Classes	3.67	1.21	3.03	4.79	1.91	2.51	5.28	2.26	2.34	5.15	2.16	2.38	5.22	2.17	2.41
Other Special	0.26	0.14	1.86	0.30	0.08	3.75	0.40	0.19	2.11	0.34	0.13	2.62	0.24	0.11	2.18
ESL	0.08	0.02	4.00	0.33	0.17	1.94	0.35	0.19	1.84	0.59	0.29	2.03	0.95	0.57	1.67
Average Pupil Load per FTE Teacher	83.97			84.87			81.97			83.21			82.85		

TT - Percent Teacher Time PT - Percent Pupil Time

Note: Figures are weighted by district enrollment. *Due to complications regarding the reporting of pupil counts for music teachers and physical education teachers, percent pupil time (PT) for these subject areas was calculated using an average pupil load for all secondary teachers within each district.

Table 9D
Percent Teacher Time and Percent Pupil Time By Secondary School Subject Area
By District Income Wealth

Subject Category	Q1 n=238			Q2 n=132			Q3 n=99			Q4 n=78			Q5 n=98		
	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT
English	16.35	16.78	0.97	15.97	16.63	0.96	15.91	16.72	0.95	15.93	16.56	0.96	15.16	16.14	0.94
Mathematics	14.53	14.27	1.02	13.67	14.31	0.96	13.22	14.15	0.93	13.18	14.35	0.92	12.76	14.01	0.91
Social Studies	12.64	15.45	0.82	12.14	15.04	0.81	12.22	14.96	0.82	12.21	14.96	0.82	11.65	14.41	0.81
Science	12.16	12.11	1.00	11.83	12.28	0.96	12.24	12.60	0.97	12.38	12.47	0.99	12.61	12.39	1.02
Trade	7.50	8.44	0.89	7.19	7.72	0.93	6.58	6.87	0.96	6.47	6.96	0.93	5.41	5.75	0.94
Foreign Language	6.69	7.41	0.90	6.76	7.65	0.88	7.27	8.10	0.90	7.54	8.56	0.88	8.51	9.46	0.90
Music*	4.91	4.73	1.04	4.56	4.33	1.05	4.62	4.33	1.07	4.52	4.18	1.08	4.77	4.51	1.06
Phys. Ed.*	5.64	5.42	1.04	5.48	5.20	1.05	5.57	5.21	1.07	5.40	5.00	1.08	5.17	4.90	1.06
Business	3.85	3.55	1.08	3.67	3.35	1.10	3.44	3.55	0.97	3.15	3.07	1.03	2.75	2.73	1.01
Art	3.64	4.68	0.78	3.75	4.44	0.84	3.84	4.61	0.83	3.76	4.54	0.83	3.94	4.71	0.84
Resource Room	3.35	0.91	3.68	3.53	0.95	3.72	3.67	0.94	3.91	3.62	0.94	3.85	4.41	1.19	3.71
Other Regular	2.11	1.47	1.44	2.61	2.25	1.16	2.74	2.06	1.33	2.79	2.12	1.32	3.62	3.44	1.05
Health	1.96	2.67	0.73	1.93	2.50	0.77	1.99	2.67	0.75	1.99	2.80	0.71	1.89	2.81	0.67
Other Vocational	1.01	0.78	1.29	0.98	0.88	1.11	1.01	0.96	1.05	0.89	0.80	1.11	0.91	0.77	1.18
Special Classes	3.33	1.17	2.85	5.26	2.14	2.46	5.00	1.96	2.55	5.26	2.26	2.33	5.20	2.14	2.42
Other Special	0.25	0.14	1.79	0.29	0.12	2.42	0.46	0.19	2.42	0.30	0.12	2.50	0.23	0.07	3.29
ESL	0.09	0.03	3.00	0.39	0.20	1.95	0.24	0.12	2.00	0.59	0.32	1.84	1.00	0.58	1.72
Average Pupil Load per FTE Teacher	83.97			84.87			81.97			83.21			82.85		

TT - Percent Teacher Time PT - Percent Pupil Time

Note: Figures are weighted by district enrollment. *Due to complications regarding the reporting of pupil counts for music teachers and physical education teachers, percent pupil time (PT) for these subject areas was calculated using an average pupil load for all secondary teachers within each district.

Table 9E
Percent Teacher Time and Percent Pupil Time By Secondary School Subject Area
By Percent of Pupils in Poverty

Subject Category	0-10% n=138			11-25% n=157			26-50% n=294			51-75% n=52			+ 75% n=4		
	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT
English	15.65	16.42	0.95	15.86	16.64	0.95	16.11	16.70	0.96	15.98	16.56	0.96	13.46	14.64	0.92
Mathematics	12.95	14.18	0.91	13.36	14.28	0.94	13.88	14.18	0.98	13.87	14.32	0.97	13.08	14.38	0.91
Social Studies	12.06	14.82	0.81	12.30	15.00	0.82	12.42	15.25	0.81	11.37	14.40	0.79	9.94	13.00	0.76
Science	12.85	12.73	1.01	12.33	12.45	0.99	12.03	12.24	0.98	11.03	11.65	0.95	9.97	11.14	0.89
Trade	5.91	6.30	0.94	6.55	7.04	0.93	7.12	7.89	0.90	7.60	7.52	1.01	5.04	6.06	0.83
Foreign Language	8.36	9.29	0.90	7.27	8.16	0.89	6.83	7.66	0.89	6.35	7.24	0.88	6.90	8.25	0.84
Music*	4.94	4.62	1.07	4.63	4.33	1.07	4.66	4.44	1.05	4.10	3.92	1.05	3.17	3.06	1.04
Phys. Ed.*	5.37	5.03	1.07	5.61	5.24	1.07	5.44	5.18	1.05	5.29	5.06	1.05	5.36	5.22	1.03
Business	2.67	2.79	0.96	3.23	3.18	1.02	3.79	3.51	1.08	4.27	3.90	1.09	5.06	4.06	1.25
Art	3.92	4.63	0.85	3.87	4.65	0.83	3.57	4.48	0.80	3.94	4.74	0.83	3.50	4.35	0.80
Resource Room	4.35	1.14	3.82	3.66	0.95	3.85	3.58	0.98	3.65	2.30	0.63	3.65	2.67	0.67	3.99
Other Regular	2.93	2.46	1.19	2.76	2.15	1.28	2.33	1.89	1.23	3.53	3.12	1.13	6.81	4.48	1.52
Health	1.99	2.89	0.69	2.02	2.67	0.76	1.89	2.54	0.74	1.87	2.63	0.71	2.12	3.05	0.70
Other Vocational	0.87	0.73	1.19	0.94	0.92	1.02	0.97	0.82	1.18	1.28	1.02	1.25	0.92	0.90	1.02
Special Classes	4.45	1.70	2.62	4.89	2.05	2.39	4.60	1.77	2.60	6.28	2.84	2.21	9.48	4.85	1.95
Other Special	0.24	0.08	3.00	0.43	0.18	2.39	0.28	0.13	2.15	0.24	0.10	2.40	0.42	0.22	1.91
ESL	0.49	0.20	2.45	0.27	0.11	2.45	0.48	0.32	1.50	0.69	0.34	2.03	2.09	1.66	1.26
Average Pupil Load per FTE Teacher	83.97			84.87			81.97			83.21			82.85		

TT - Percent Teacher Time PT - Percent Pupil Time

Note: Figures are weighted by district enrollment. *Due to complications regarding the reporting of pupil counts for music teachers and physical education teachers, percent pupil time (PT) for these subject areas was calculated using an average pupil load for all secondary teachers within each district.

Table 9F
Percent Teacher Time and Percent Pupil Time By Secondary School Subject Area
By Performance Level

Subject Category	Q1 n=137			Q2 n=131			Q3 n=115			Q4 n=112			Q5 n=150		
	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT
English	15.64	16.48	0.95	16.20	16.64	0.97	15.95	16.75	0.95	15.79	16.43	0.96	15.84	16.59	0.95
Mathematics	13.37	14.06	0.95	13.89	14.35	0.97	13.17	14.08	0.94	13.19	14.31	0.92	13.72	14.33	0.96
Social Studies	11.67	14.61	0.80	12.41	15.28	0.81	12.30	15.15	0.81	12.20	14.79	0.82	12.40	15.08	0.82
Science	11.59	11.98	0.97	12.08	12.29	0.98	12.36	12.50	0.99	12.52	12.48	1.00	12.75	12.70	1.00
Trade	6.81	7.23	0.94	6.99	7.51	0.93	6.75	7.21	0.94	6.37	7.06	0.90	6.30	6.82	0.92
Foreign Language	6.74	7.67	0.88	6.96	7.74	0.90	7.33	8.27	0.89	7.71	8.54	0.90	8.03	8.98	0.89
Music*	4.33	4.14	1.05	4.74	4.48	1.06	4.83	4.53	1.07	4.66	4.37	1.07	4.83	4.54	1.06
Phys. Ed.*	5.42	5.18	1.05	5.38	5.08	1.06	5.64	5.29	1.07	5.44	5.10	1.07	5.43	5.09	1.07
Business	4.11	3.75	1.10	3.34	3.13	1.07	3.07	3.03	1.01	3.11	3.16	0.98	3.12	3.12	1.00
Art	3.59	4.39	0.82	3.75	4.60	0.82	3.87	4.92	0.79	3.79	4.58	0.83	3.94	4.53	0.87
Resource Room	3.22	0.88	3.66	3.44	0.92	3.74	3.92	1.08	3.63	4.02	1.04	3.87	4.01	1.03	3.89
Other Regular	3.27	2.71	1.21	2.69	2.47	1.09	2.23	1.62	1.38	2.96	2.27	1.30	2.54	2.02	1.26
Health	1.80	2.56	0.70	1.94	2.67	0.73	1.97	2.57	0.77	2.10	2.87	0.73	1.99	2.80	0.71
Other Vocational	1.04	0.93	1.12	0.90	0.74	1.22	0.96	0.83	1.16	1.05	0.95	1.11	0.85	0.74	1.15
Special Classes	6.31	2.73	2.31	4.64	1.84	2.52	4.87	1.91	2.55	4.38	1.68	2.61	3.71	1.44	2.58
Other Special	0.31	0.15	2.07	0.38	0.16	2.38	0.38	0.11	3.45	0.28	0.16	1.75	0.21	0.08	2.63
ESL	0.81	0.55	1.47	0.27	0.12	2.25	0.39	0.16	2.44	0.43	0.22	1.95	0.32	0.12	2.67
Average Pupil Load per FTE Teacher	83.97			84.87			81.97			83.21			82.85		

TT - Percent Teacher Time PT - Percent Pupil Time

Note: Figures are weighted by district enrollment. *Due to complications regarding the reporting of pupil counts for music teachers and physical education teachers, percent pupil time (PT) for these subject areas was calculated using an average pupil load for all secondary teachers within each district.

Table 10A
Percent Teacher Time and Percent Pupil Time
By Secondary School Instructional Area (7-12)
By District Spending Level

Subject Category	Q1 n=87			Q2 n=147			Q3 n=167			Q4 n=117			Q5 n=127		
	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT
English Total	16.59	17.05	.97	16.19	16.69	0.97	16.26	16.64	0.98	15.43	16.55	0.93	15.31	16.17	0.95
Advanced English	0.58	0.56	1.04	0.82	0.87	0.94	0.75	0.81	0.93	1.12	1.34	0.84	1.27	1.54	0.82
Regular English	13.43	15.03	.089	13.00	14.40	0.90	12.67	14.03	0.90	11.90	13.53	0.88	11.78	13.09	0.90
Remedial English	2.58	1.46	1.77	2.37	1.41	1.68	2.84	1.80	1.58	2.41	1.67	1.44	2.26	1.55	1.46
Math Total	14.15	14.53	0.97	13.86	14.44	0.96	13.96	14.20	0.98	13.19	14.15	0.93	12.54	13.95	0.90
Advanced Math	1.16	1.19	0.97	1.16	1.26	0.92	1.06	1.11	0.95	1.37	1.54	0.89	1.61	1.87	0.86
Regular Math	9.71	11.24	0.86	9.72	11.34	0.86	9.50	10.99	0.86	9.10	10.81	0.84	9.16	10.90	0.84
Remedial Math	3.28	2.11	1.55	2.98	1.84	1.62	3.40	2.11	1.61	2.73	1.80	1.52	1.78	1.18	1.51
Science Total	12.32	12.58	0.98	12.31	12.50	0.98	12.03	12.35	0.97	12.17	12.38	0.98	12.42	12.18	1.02
Advanced Science	0.51	0.38	1.34	0.69	0.57	1.21	0.61	0.50	1.22	1.19	1.01	1.18	1.59	1.35	1.12
Regular Science	11.62	12.16	0.96	11.49	11.89	0.97	11.29	11.80	0.96	10.84	11.31	0.96	10.67	10.76	0.99
Remedial Science	0.18	0.05	3.60	0.12	0.04	3.00	0.13	0.05	2.60	0.14	0.05	2.80	0.16	0.06	2.67
Social Studies Total	12.90	15.32	0.84	12.53	15.35	0.82	12.22	15.06	0.81	11.93	14.79	0.81	11.72	14.52	0.81
Advanced Soc. Studies	0.36	0.38	0.95	0.58	0.67	0.87	0.55	0.63	0.87	1.03	1.22	0.84	1.29	1.55	0.83
Regular Soc. Studies	12.22	14.80	0.83	11.68	14.54	0.80	11.34	14.27	0.79	10.67	13.41	0.80	10.14	12.78	0.79
Remedial Soc. Studies	0.31	0.14	2.21	0.27	0.15	1.80	0.32	0.16	2.00	0.22	0.16	1.38	0.29	0.18	1.61
Foreign Language	6.98	7.78	0.90	7.27	8.09	0.90	7.05	8.00	0.88	7.14	8.03	0.89	8.09	9.01	0.90
Advanced For. Lang.	0.21	0.19	1.11	0.25	0.21	1.19	0.23	0.20	1.15	0.48	0.47	1.02	0.61	0.54	1.13
Regular For. Lang.	6.77	7.59	0.89	7.02	7.88	0.89	6.82	7.82	0.87	6.66	7.56	0.88	7.48	8.47	0.88
Remedial For. Lang.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Advanced	2.82	2.69	1.05	3.50	3.58	0.98	3.21	3.26	0.98	5.18	5.59	0.93	6.36	6.86	0.93
Total Regular	53.75	60.81	0.88	52.92	60.05	0.88	51.62	58.91	0.88	49.18	56.62	0.87	49.23	56.00	0.88
Total Remedial	6.36	3.76	1.69	5.74	3.43	1.67	6.69	4.11	1.63	5.50	3.69	1.49	4.49	2.96	1.52
Total Core	62.93	67.27	0.94	62.16	67.07	0.93	61.51	66.28	0.93	59.86	65.90	0.91	60.07	65.82	0.91

Note: Figures are weighted by district enrollment.

TT - Percent Teacher Time PT - Percent Pupil Time

Table 10B
Percent Teacher Time and Percent Pupil Time
By Secondary School Subject Area
By District Size

Subject Category	0-500 n=65			501-1000 n=102			1001-1500 n=144			1501-5000 n=270			5001-10,000 n=58			over 10,000 n=6		
	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT
English Total	15.51	16.26	0.95	16.04	16.52	0.97	16.10	16.19	0.99	15.97	16.73	0.95	15.73	16.49	0.95	15.12	16.52	0.92
Advanced English	0.18	0.09	2.0	0.42	0.35	1.20	0.64	0.59	1.08	0.98	1.12	0.88	1.08	1.28	0.84	1.36	1.76	0.77
Regular English	12.69	14.82	0.86	12.80	14.54	0.88	13.05	14.21	0.92	12.50	14.03	0.89	12.10	13.46	0.90	11.92	13.30	0.90
Remedial English	2.64	1.34	1.97	2.82	1.63	1.73	2.41	1.40	1.72	2.49	1.58	1.58	2.55	1.75	1.46	1.83	1.47	1.24
Math Total	14.70	13.68	1.07	14.71	13.95	1.05	14.24	14.28	1.00	13.53	14.33	0.94	12.95	14.12	0.92	12.32	14.01	0.88
Advanced Math	0.49	0.26	1.88	0.82	0.64	1.28	1.13	1.11	1.02	1.37	1.52	0.90	1.31	1.52	0.86	1.36	1.62	0.84
Regular Math	9.71	10.62	0.91	9.86	10.82	0.91	9.81	11.11	0.88	9.47	11.13	0.85	9.07	10.90	0.83	9.03	10.87	0.83
Remedial Math	4.50	2.80	1.61	4.02	2.49	1.61	3.30	2.07	1.59	2.69	1.68	1.60	2.58	1.70	1.52	1.93	1.52	1.27
Science Total	11.46	11.24	1.02	12.05	11.81	1.02	12.14	12.04	1.01	12.49	12.56	0.99	11.91	12.32	0.97	12.07	12.51	0.96
Advanced Science	0.11	0.07	1.57	0.18	0.08	2.25	0.50	0.33	1.52	1.00	0.82	1.22	1.17	1.03	1.14	1.66	1.54	1.08
Regular Science	11.24	11.12	1.01	11.73	11.69	1.00	11.50	11.65	0.99	11.35	11.70	0.97	10.59	11.23	0.94	10.28	10.90	0.94
Remedial Science	0.11	0.04	2.75	0.15	0.04	3.75	0.14	0.05	2.80	0.14	0.05	2.80	0.14	0.06	2.33	0.14	0.07	2.00
Social Studies Total	11.80	15.06	0.78	12.23	14.75	0.83	12.42	14.72	0.84	12.32	15.14	0.81	11.90	14.80	0.80	11.73	14.98	0.78
Advanced Soc. Studies	0.11	0.08	1.38	0.21	0.19	1.11	0.48	0.50	0.96	0.78	0.89	0.88	1.01	1.25	0.81	1.57	2.00	0.79
Regular Soc. Studies	11.32	14.85	0.76	11.72	14.43	0.81	11.63	14.10	0.82	11.25	14.09	0.80	10.65	13.37	0.80	9.94	12.74	0.78
Remedial Soc. Studies	0.37	0.14	2.64	0.30	0.12	2.50	0.32	0.12	2.67	0.29	0.16	1.81	0.24	0.17	1.41	0.22	0.24	0.92
Foreign Language	6.55	6.89	0.95	6.77	7.22	0.94	7.10	7.59	0.94	7.52	8.39	0.90	7.39	8.53	0.87	6.50	7.74	0.84
Advanced For. Lang.	0.07	0.03	2.33	0.11	0.05	2.20	0.19	0.12	1.58	0.41	0.37	1.11	0.42	0.41	1.02	0.47	0.55	0.85
Regular For. Lang.	6.48	6.86	0.90	6.66	7.17	0.93	6.90	7.46	0.92	7.11	8.02	0.89	6.96	8.12	0.86	6.03	7.19	0.84
Remedial For. Lang.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Advanced	0.97	0.53	1.83	1.73	1.32	1.31	2.95	2.66	1.11	4.54	4.73	0.96	5.00	5.50	0.91	6.42	7.47	0.86
Total Regular	51.44	58.64	0.88	52.77	58.65	0.90	52.88	58.44	0.91	51.68	58.96	0.88	49.38	57.09	0.87	47.20	55.00	0.86
Total Remedial	7.62	4.32	1.76	7.30	4.27	1.71	6.17	3.63	1.70	5.62	3.46	1.62	5.51	3.67	1.50	4.13	3.29	1.26
Total Core	60.02	63.49	0.95	61.80	64.25	0.96	62.00	64.82	0.96	61.84	67.15	0.92	59.89	66.26	0.90	57.74	65.76	0.88

TT - Percent Teacher Time PT - Percent Pupil Time

Note: Figures are weighted by district enrollment.

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Table 10C
Percent Teacher Time and Percent Pupil Time
By Secondary School Instructional Area (7-12)
By District Property Wealth

Subject Category	Q1 n=194			Q2 n=130			Q3 n=103			Q4 n=91			Q5 n=127		
	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT
English Total	16.26	16.75	0.97	16.12	16.67	0.97	15.77	16.44	0.96	15.78	16.74	0.94	15.43	16.25	0.95
Advanced English	0.53	0.55	0.96	0.70	0.73	0.96	1.00	1.18	0.85	1.26	1.50	0.84	1.23	1.44	0.85
Regular English	12.98	14.68	0.88	12.66	14.16	0.89	12.45	13.66	0.91	12.03	13.51	0.89	12.12	13.48	0.90
Remedial English	2.76	1.52	1.82	2.76	1.78	1.55	2.32	1.60	1.45	2.49	1.72	1.45	2.07	1.34	1.54
Math Total	14.42	14.35	1.00	13.49	14.12	0.96	13.56	14.31	0.95	13.15	14.31	0.92	12.71	14.00	0.91
Advanced Math	0.91	0.86	1.16	0.98	1.03	0.95	1.22	1.37	0.89	1.58	1.84	0.86	1.73	2.00	0.87
Regular Math	9.67	11.12	0.87	9.34	11.04	0.85	9.42	11.02	0.85	9.28	11.04	0.84	9.29	10.92	0.85
Remedial Math	3.83	2.36	1.62	3.17	2.04	1.55	2.92	1.93	1.51	2.29	1.43	1.60	1.69	1.09	1.55
Science Total	12.22	12.33	0.99	11.87	12.29	0.97	11.99	12.24	0.98	12.49	12.72	0.98	12.64	12.29	1.03
Advanced Science	0.36	0.24	1.50	0.63	0.52	1.21	0.87	0.74	1.18	1.39	1.22	1.14	1.60	1.33	1.20
Regular Science	11.70	12.05	0.97	11.10	11.71	0.95	11.00	11.45	0.96	10.96	11.45	0.96	10.89	10.90	1.00
Remedial Science	0.16	0.04	4.00	0.14	0.05	2.80	0.12	0.05	2.40	0.14	0.06	2.33	0.15	0.06	2.50
Social Studies Total	12.57	15.34	0.82	12.34	15.12	0.82	12.00	14.79	0.81	12.17	15.08	0.81	11.81	14.51	0.81
Advanced Soc. Studies	0.30	0.31	0.97	0.45	0.53	0.85	0.80	0.95	0.84	1.23	1.49	0.83	1.27	1.49	0.85
Regular Soc. Studies	11.91	14.87	0.80	11.55	14.40	0.80	10.99	13.70	0.80	10.73	13.47	0.80	10.25	12.83	0.80
Remedial Soc. Studies	0.35	0.16	2.19	0.34	0.20	1.70	0.21	0.14	1.50	0.21	0.12	1.75	0.30	0.19	1.58
Foreign Language	6.76	7.50	0.90	6.80	7.84	0.87	7.07	7.99	0.88	7.69	8.59	0.90	8.42	9.24	0.91
Advanced For. Lang.	0.12	0.09	1.33	0.23	0.22	1.05	0.33	0.33	1.00	0.56	0.49	1.14	0.62	0.57	1.09
Regular For. Lang.	6.64	7.41	0.90	6.57	7.62	0.86	6.74	7.68	0.88	7.13	8.09	0.88	7.80	8.68	0.90
Remedial For. Lang.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Advanced	2.22	2.05	1.08	3.00	3.03	0.99	4.23	4.57	0.93	6.03	6.54	0.92	6.45	6.82	0.95
Total Regular	52.90	60.13	0.88	51.21	58.93	0.87	50.60	57.51	0.88	50.13	57.57	0.87	50.35	56.81	0.89
Total Remedial	7.11	4.09	1.74	6.41	4.07	1.57	5.57	3.71	1.50	5.14	3.32	1.55	4.21	2.66	1.58
Total Core	62.23	66.27	0.94	60.62	66.04	0.92	60.40	65.79	0.92	61.29	67.43	0.91	61.02	66.29	0.92

Note: Figures are weighted by district enrollment.

TT - Percent Teacher Time PT - Percent Pupil Time

Table 10D
Percent Teacher Time and Percent Pupil Time
By Secondary School Instructional Area (7-12)
By District Income Wealth

Subject Category	Q1 n=238			Q2 n=132			Q3 n=99			Q4 n=78			Q5 n=98		
	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT
English Total	16.35	16.78	0.97	15.97	16.63	0.96	15.91	16.72	0.95	15.93	16.56	0.96	15.16	16.14	0.94
Advanced English	0.46	0.45	1.02	0.72	0.81	0.88	0.99	1.14	0.87	1.23	1.43	0.86	1.33	1.57	0.85
Regular English	13.00	14.66	0.87	12.48	14.10	0.89	12.55	13.91	0.90	12.37	13.61	0.91	11.80	13.17	0.90
Remedial English	2.88	1.66	1.73	2.77	1.71	1.62	2.37	1.68	1.41	2.33	1.51	1.54	2.03	1.40	1.45
Math Total	14.53	14.27	1.02	13.67	14.31	0.96	13.22	14.15	0.93	13.18	14.35	0.92	12.76	14.01	0.91
Advanced Math	0.89	0.82	1.09	0.95	1.00	0.95	1.25	1.39	0.90	1.49	1.74	0.86	1.88	2.16	0.87
Regular Math	9.69	10.98	0.88	9.21	10.98	0.84	9.50	11.17	0.85	9.40	11.17	0.84	9.20	10.81	0.85
Remedial Math	3.96	2.47	1.60	3.51	2.33	1.51	2.47	1.58	1.56	2.29	1.44	1.59	1.69	1.03	1.64
Science Total	12.16	12.11	1.00	11.83	12.28	0.96	12.24	12.60	0.97	12.38	12.47	0.99	12.61	12.39	1.02
Advanced Science	0.33	0.21	1.57	0.63	0.53	1.19	0.89	0.76	1.17	1.35	1.15	1.17	1.65	1.41	1.17
Regular Science	11.65	11.85	0.93	11.06	11.70	0.95	11.23	11.81	0.95	10.89	11.27	0.97	10.83	10.93	0.99
Remedial Science	0.18	0.06	3.00	0.14	0.06	2.33	0.12	0.04	3.00	0.14	0.05	2.80	0.13	0.06	2.17
Social Studies Total	12.64	15.45	0.82	12.14	15.04	0.81	12.22	14.96	0.82	12.21	14.96	0.82	11.65	14.41	0.81
Advanced Soc. Studies	0.26	0.25	1.04	0.54	0.65	0.83	0.80	0.93	0.86	1.14	1.36	0.84	1.32	1.58	0.84
Regular Soc. Studies	12.00	15.04	0.80	11.29	14.18	0.80	11.15	13.87	0.80	10.87	13.49	0.81	10.08	12.67	0.80
Remedial Soc. Studies	0.38	0.16	2.38	0.31	0.20	0.16	0.27	0.16	1.69	0.20	0.11	1.82	0.26	0.17	1.53
Foreign Language	6.69	7.41	0.90	6.76	7.65	0.88	7.27	8.10	0.90	7.54	8.56	0.88	8.51	9.46	0.90
Advanced For. Lang.	0.12	0.08	1.50	0.26	0.26	1.00	0.32	0.28	1.14	0.48	0.45	1.07	0.70	0.64	1.09
Regular For. Lang.	6.57	7.34	0.89	6.50	7.39	0.88	6.95	7.83	0.89	7.06	8.12	0.87	7.82	8.82	0.89
Remedial For. Lang.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Advanced	2.05	1.81	1.13	3.10	3.26	0.95	4.25	4.49	0.95	5.70	6.13	0.93	6.87	7.36	0.93
Total Regular	52.92	59.88	0.88	50.54	58.35	0.87	51.37	58.59	0.88	50.59	57.66	0.88	49.73	56.39	0.88
Total Remedial	7.40	4.35	1.70	6.73	4.30	1.57	5.23	3.46	1.51	4.96	3.11	1.59	4.11	2.65	1.55
Total Core	62.37	66.04	0.94	60.37	65.91	0.92	60.86	66.54	0.91	61.25	66.90	0.92	60.70	66.41	0.91

Note: Figures are weighted by district enrollment.

TT - Percent Teacher Time PT - Percent Pupil Time

Table 10E
Percent Teacher Time and Percent Pupil Time
By Secondary School Instructional Area (7-12)
By Percent of District Pupils in Poverty

Subject Category	0-10% n=138			11-25% n=157			26-50% n=294			51-75% n=52			+ 75% n=4		
	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT
English Total	15.65	16.42	0.96	15.86	16.64	0.96	16.11	16.70	0.97	15.98	16.56	0.97	13.46	14.64	0.92
Advanced English	1.31	1.52	0.86	1.04	1.19	0.87	0.65	0.72	0.90	0.70	0.81	0.86	0.78	0.98	0.80
Regular English	12.37	13.65	0.91	12.50	13.86	0.90	12.61	14.25	0.88	12.19	13.70	0.89	9.43	10.73	0.88
Remedial English	1.96	1.25	1.57	2.33	1.59	1.47	2.85	1.72	1.66	3.09	2.05	1.51	3.26	2.93	1.11
Math Total	12.95	14.18	0.91	13.36	14.28	0.94	13.88	14.18	0.98	13.87	14.32	0.97	13.08	14.38	0.91
Advanced Math	1.81	2.12	0.85	1.26	1.38	0.91	1.01	1.04	0.97	0.87	0.92	0.95	0.56	0.62	0.90
Regular Math	9.44	11.08	0.85	9.62	11.32	0.85	9.38	10.91	0.86	8.76	10.49	0.84	8.28	10.39	0.80
Remedial Math	1.71	0.99	1.73	2.48	1.58	1.57	3.50	2.24	1.56	4.24	2.91	1.46	4.23	3.37	1.26
Science Total	12.85	12.73	1.01	12.33	12.45	0.99	12.03	12.24	0.98	11.03	11.65	0.95	9.97	11.14	0.89
Advanced Science	1.59	1.37	1.16	0.95	0.78	1.22	0.59	0.46	1.28	0.58	0.55	1.05	0.38	0.29	1.31
Regular Science	11.17	11.32	0.99	11.25	11.62	0.97	11.26	11.73	0.96	10.26	11.01	0.93	9.29	10.68	0.87
Remedial Science	0.09	0.03	3.00	0.13	0.04	3.25	0.18	0.06	3.00	0.19	0.09	2.11	0.30	0.16	1.88
Social Studies Total	12.06	14.82	0.81	12.30	15.00	0.82	12.42	15.25	0.81	11.37	14.40	0.79	9.94	13.00	0.76
Advanced Soc. Studies	1.26	1.49	0.85	0.89	1.04	0.86	0.46	0.54	0.85	0.60	0.74	0.81	0.15	0.17	0.88
Regular Soc. Studies	10.60	13.21	0.80	11.15	13.80	0.81	11.64	14.56	0.80	10.39	13.37	0.78	9.44	12.48	0.76
Remedial Soc. Studies	0.20	0.11	1.82	0.26	0.16	1.63	0.33	0.16	2.06	0.38	0.28	1.36	0.35	0.35	1.00
Foreign Language	8.36	9.29	0.90	7.27	8.16	0.89	6.83	7.66	0.89	6.35	7.24	0.88	6.90	8.25	0.84
Advanced For. Lang.	0.64	0.60	1.07	0.34	0.30	1.13	0.21	0.17	1.24	0.29	0.33	0.88	0.08	0.06	1.33
Regular For. Lang.	7.71	8.69	0.89	6.93	7.86	0.88	6.62	7.49	0.88	6.06	6.98	0.87	6.82	8.19	0.83
Remedial For. Lang.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Advanced	6.61	7.10	0.93	4.48	4.69	0.96	2.93	2.92	1.00	3.04	3.36	0.90	1.95	2.13	0.92
Total Regular	51.30	57.95	0.89	51.45	58.46	0.88	51.49	58.93	0.87	47.66	55.56	0.86	43.26	52.47	0.82
Total Remedial	3.96	2.38	1.66	5.20	3.37	1.54	6.85	4.18	1.64	7.91	5.33	1.48	8.15	6.81	1.20
Total Core	61.87	67.44	0.92	61.13	66.53	0.92	61.27	66.04	0.93	58.61	64.24	0.91	53.35	61.41	0.87

Note: Figures are weighted by district enrollment.

TT - Percent Teacher Time PT - Percent Pupil Time

Table 10F
Percent Teacher Time and Percent Pupil Time
By Secondary School Instructional Area (7-12)
By Performance Level

Subject Category	Q1 n=137			Q2 n=131			Q3 n=115			Q4 n=112			Q5 n=150		
	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT	TT	PT	TT/PT
English Total	15.64	16.48	0.95	16.20	16.64	0.97	15.95	16.75	0.95	15.79	16.43	0.96	15.84	16.59	0.95
Advanced English	0.70	0.82	0.85	0.91	1.03	0.88	0.93	1.05	0.89	1.02	1.13	0.90	1.21	1.39	0.87
Regular English	12.01	13.62	0.88	12.53	14.01	0.89	12.48	14.09	0.89	12.63	13.89	0.91	12.67	13.94	0.91
Remedial English	2.93	2.04	1.44	2.76	1.60	1.73	2.54	1.61	1.58	2.14	1.41	1.52	1.97	1.25	1.58
Math Total	13.37	14.06	0.95	13.89	14.35	0.97	13.17	14.08	0.94	13.19	14.31	0.92	13.72	14.33	0.96
Advanced Math	0.95	1.01	0.94	1.16	1.28	0.91	1.27	1.38	0.92	1.49	1.67	0.89	1.60	1.81	0.88
Regular Math	8.95	10.61	0.84	9.55	11.16	0.86	9.35	11.09	0.84	9.54	11.24	0.85	9.68	11.12	0.87
Remedial Math	3.47	2.43	1.43	3.18	1.91	1.66	2.55	1.62	1.57	2.16	1.39	1.55	2.43	1.40	1.74
Science Total	11.59	11.98	0.97	12.08	12.29	0.98	12.36	12.50	0.99	12.52	12.48	1.00	12.75	12.70	1.00
Advanced Science	0.74	0.60	1.23	0.80	0.66	1.21	0.95	0.78	1.22	1.11	0.95	1.17	1.27	1.07	1.19
Regular Science	10.67	11.30	0.94	11.12	11.58	0.96	11.26	11.66	0.97	11.33	11.50	0.99	11.35	11.59	0.98
Remedial Science	0.19	0.08	2.38	0.16	0.05	3.20	0.14	0.06	2.33	0.08	0.03	2.67	0.13	0.04	3.25
Social Studies Total	11.67	14.61	0.80	12.41	15.28	0.81	12.30	15.15	0.81	12.20	14.79	0.82	12.40	15.08	0.82
Advanced Soc. Studies	0.59	0.72	0.82	0.75	0.86	0.87	0.77	0.91	0.85	0.92	1.05	0.88	1.05	1.25	0.84
Regular Soc. Studies	10.75	13.66	0.79	11.35	14.25	0.80	11.23	14.09	0.80	11.07	13.63	0.81	11.12	13.71	0.81
Remedial Soc. Studies	0.33	0.23	1.43	0.31	0.18	1.72	0.29	0.15	1.93	0.21	0.11	1.91	0.24	0.12	2.00
Foreign Language	6.74	7.67	0.88	6.96	7.74	0.90	7.33	8.27	0.89	7.71	8.54	0.90	8.03	8.98	0.89
Advanced For. Lang.	0.27	0.24	1.13	0.34	0.31	1.10	0.30	0.26	1.15	0.48	0.46	1.04	0.49	0.43	1.14
Regular For. Lang.	6.47	7.43	0.87	6.62	7.43	0.89	7.03	8.01	0.88	7.23	8.11	0.89	7.55	8.55	0.88
Remedial For. Lang.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Advanced	3.23	3.40	0.95	3.96	4.15	0.95	4.22	4.38	0.96	5.01	5.25	0.95	5.61	5.96	0.94
Total Regular	48.84	56.61	0.86	51.18	58.42	0.88	51.36	58.94	0.87	51.80	58.37	0.89	52.36	58.91	0.89
Total Remedial	6.92	4.78	1.45	6.40	3.74	1.71	5.53	3.43	1.61	4.60	2.94	1.56	4.78	2.82	1.70
Total Core	58.99	64.79	0.91	61.54	66.31	0.93	61.11	66.75	0.92	61.41	66.56	0.92	62.75	67.69	0.93

Note: Figures are weighted by district enrollment.

TT - Percent Teacher Time PT - Percent Pupil Time